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Department of School Education

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1

OUR GOLDEN PAST

ANCIENT TAMIL KINGDOMS AND KINGS (SANGAM AGE)

Have you heard of any ancient Tamil kingdoms?

When we mention the words “Ancient Tamil Kingdoms and Kings” we at once think of the Cheras, Cholas and Pandya.

Do you know that the history of Tamil kingdoms starts from the Sangam Age?

It is generally believed that the Sangam age dates from **300 B.C. to 300 A.D.** There were many kings in various parts of Tamil Nadu. During this period, Tamil people were largely farmers, hunters and fishermen. There were groups of poets who sang songs about the kings, about life in this period and were called **Sangam poets**. Hence these 600 years are known as the **Sangam age**.

ANCIENT TAMILNADU

The history of ancient Tamils is said to be more than two thousand years old. The extent of the Tamil land was from Tirupati then called Vengadam in the north to Kanyakumari in the south and from the Arabian Sea in the west to the Bay of Bengal in the east.

How do we know about the ancient Tamils?

Tamil poetry and writing from those times give us very vivid images of the life and society of the ancient Tamil people. This literature is called Sangam literature. Apart from **Sangam literature**, there are other sources of information.

We get information about ancient Tamil Nadu from the **inscriptions of Asoka** and the **Arthashastra of Chanakya**.

A Greek book called [Periplus of the Erythrean Sea](#) also talks about Tamil Nadu during the Sangam age. From the Roman coins, beads and pottery found in Arikamedu near Puducherry, we learn that Tamils and Romans had traded with each other. Pottery and other materials found in Adichanallur and other places were used by people who lived during the Sangam Age.

THE THREE SANGAM ERAS

Sangam means [association](#). Sangams of Tamil writers, poets and scholars were supported by various kings. From all the evidence we have today, we find there were three great Tamil Sangams. The first kingdom was in the ancient Thenmadurai which was submerged under the sea.

The second was in Kapadapuram which was away from the seashore. But even this was washed away by the sea.

The third Sangam kingdom was established in a region which is today's Madurai.

There were three major kingdoms in the early and later Sangam Eras. They were as follows:

1. Chera

2. Chola

3. Pandya

Other than the kings there were many chieftains and smaller kings under them ruling the land. They were [Velirs](#), [Kosars](#), [Adhiyamans](#) and [Gungers](#).

The kings were known for their valour. They were great patrons of fine arts. Poets were held in high esteem. The kings were just, generous and brave. Their aim was to have a happy safe kingdom where the subjects were protected and contented.

The Sangam period produced many great works of literature. But much of it has been lost. What is left has been compiled in two collections namely [Pathupattu](#) and [Ettuthogai](#). These poems tell us about the life of the people, their values and the greatness and benevolence of the kings and chieftains of that time. The book "[Tholkappiam](#)" spelt out all the grammatical elements of Tamil.

The following table will give us an idea of the significant aspects of the three major Tamil Kingdoms.

Kingdoms	Capitals	Flags and Emblems	Ports	Areas of rule
Chera	Vanji	Bow and Arrow	Thondi, Musiri	Today's Kerala, Salem, Coimbatore
Chola	Uraiyur	Tiger	Kaveri poompattinam	Chittur, North and South Arcot, Chengalpet, Thanjavur, Trichy
Pandya	Madurai	Fish	Korkai,Kayal	Madurai, Pudukkottai, Ramanathapuram, Tirunelveli

Now we shall read about three outstanding kings of this age – one from each kingdom.

CHERAN CHENGUTTU VAN

Have you heard of the famous literary masterpiece *Silappadikaram*? Do you know who wrote it? It was *Elango Adigal*. Cheran Chenguttuvan was the brother of this great writer. He was the greatest of the Chera kings. He is remembered as a great warrior, a generous and kind-hearted ruler and a great patron of Tamil poets. Many poems celebrate his glories in the battlefield.



Do you know?

The Sangam poets Parunar and Seethalai Sathanar were present in his court.

The Chera kingdom was near the Arabian Sea. So Cheran Chenguttuvan had a strong navy. He put down the sea pirates who had been troubling merchant ships. So sea trade grew during his rule. Cheran Chenguttuvan went on a military expedition to North India. After defeating all the kings who opposed him on his way, he reached the Himalayas. There he gathered a stone for making a statue of *Kannagi* and returned home. He had a statue made and placed it in the temple of Kannagi which he built to celebrate her greatness.

KARIKALA CHOLAN

Karikalan was a great warrior and the greatest Chola king of the Sangam Age. He defeated the Chera and the Pandya kings of his time at [Venni](#) near Thanjavur. The defeated kings accepted his supremacy. There are several songs in Sangam literature praising his greatness.



Karikalan's greatest contribution was the improvement he made to the Kavery delta irrigation system. To prevent flooding of rice fields he built dams across river Kaveri. Important among these was the check dam built at [Kallanai](#) which diverts the flood waters from the [Kaveri](#) to [Kollidam](#).



Kallanai is the first masonry dam built in the world and it remains strong even now.

Karikalan encouraged art and literature. Great poets like [Mudathamakkanniar](#) and [Uruthirankannanar](#) adorned his court.

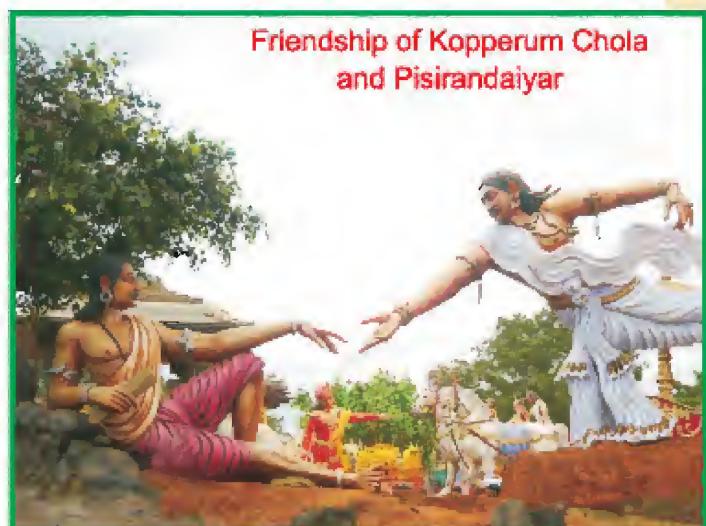
Do you know what these two poets wrote?

Mudathamakkanniar wrote '[Porunaratrupadai](#)' and Uruthirankannanar wrote '[Pattinappalai](#)'.

Both are great Sangam Tamil works.

Another great Chola King was [Kopperum Chola](#). He was renowned for friendship. The great poet called [Pisirandaiyar](#) and this king were examples of a strong friendship. The special aspect of this bond was the fact that they had never met each other.

Friendship of Kopperum Chola and Pisirandaiyar



PANDYAN NEDUNCHEZHIAN

Nedunchezhan was a great king of the Pandyas. At a place called **Thalaiyalanganam** he defeated the combined armies of the Chera and Chola kings with the support of five chieftains. With this victory he established his supremacy. After this he assumed the title **Thalaiyalanganathu Cheruvendra Pandyan**. He is referred to by this name in Sangam literature.



With the patronage of Pandyan Nedunchezhan the Tamil Sangam was held at Madurai. He was a liberal patron of Tamil poets and scholars.

OTHER KINGS OF THE SANGAM AGE

The kings who ruled smaller areas were known as Velirs. They were loyal to the three great Tamil Dynasties. **Adiyaman** was the most famous among them.

Something for you

The poems Purananooru, Agananooru, Kurunthogai and Natrinai praise his greatness.

ADIYAMAN

The first Auvaiyar was a Sangam poet. She was supported by a King Adiyaman Neduman Anci of Takatur. This area is in present day Dharmapuri in TamilNadu. She sang his praises. A Nelli plant with special powers to prolong life grew in a crevice on the summit of an ancient mountain that was hard to climb. Adiyaman brought it for her and prolonged her life. This is an example of how much the ancient Tamil kings valued poets.

Adiyaman was also renowned for his valour. Having no idea of his power, a king called Thondaiman tried to attack Takatur. Auvaiyar went as an ambassador and spoke to Thondaiman about Adiyaman's bravery and strength. Due to this Thondaiman gave up his plans to wage a war.



KADAIEZHU VALLALGAL

There were some kings called Kadaiezhu Vallalgal. **Thirumudi Kari**, **Paari**, **Valvil Oari**, **Adiyaman**, **Perumpeyar Pegun**, **Aai Andiran** and **Nalli** were known as the Seven Vallalgal.

1. Thirumudi Kari gave his horse and kingdom to Iravalas a tribe.
2. Paari vallal gave his chariot to support a creeper.
3. Valvil Oari gave his kingdom to the artists of Kollimalai.
4. Adiyaman gave a nelli fruit to Auvaiyar.
5. Pegun gave a shawl to protect a peacock from exposure to cold.
6. Aai Andiran gave the rare dress he obtained to Lord Shiva.
7. Nalli helped people who came to him for help in the forest without revealing his true identity.



They were generous, benevolent kings who felt that service to the people was their duty. They were the seven greatest philanthropists of the last Sangam era.

GREAT POETS OF THE SANGAM AGE.

Notable among the great poets were Kapilar, Paranar, Nakkirar and Pisirandaiyar. Among women Auvaiyar, Angavai and Sangavai were famous. Many of the kings themselves were talented poets.



How would we describe the great kings?

During the Ancient Sangam Age the kings were just and compassionate. They cared about the welfare of their subjects and did their utmost for them.

Agriculture, industry, crafts and trade flourished during this time thus spreading prosperity all around. Foreign trade with Rome, Egypt and Arabia flourished. Roman coins found in many parts of Tamil Nadu are proof of this. Foreign ships bearing gold, halted at Tamil ports and took back pepper, spices, pearls and fine textiles made of cotton and silks.

A special aspect was the great friendships between the kings and scholars. The scholars even advised the kings when they were going wrong.

SOME SALIENT FEATURES

The ancient Tamil kings were very much people oriented. They did not build palaces or monuments for themselves but built temples, forts, dams, ships etc. which were useful for their subjects. They displayed sound **technical and engineering** knowledge in their buildings. There was great artistry also in them. A Chola speciality is their **metal craft** where they combined five metals to make idols and statues.

INTERESTING FACTS

- In ancient days Tamil Nadu was known as Tamilagam.
- The ancient Tamils were highly civilized, they lived in villages and fortified cities.
- The ancient Tamils lived a life of harmony with their natural surroundings.
- The river Kauveri was also called **Ponni** in ancient times.
- The ancient Chola kingdom was called **Ponnivalanadu**.
- People fondly called Karikala Cholan, “**Karikal Peruvalathan**”
- A popular account about Karikalan's name says that “**Kari**” in Tamil means elephant and “**Kala**” means destroyer. Thus this name refers to the destroyer of the elephant forces of his enemies.
- Another version says that when Karikalan was young, his enemies set fire to his tent and consequently he got burns in his legs. This earned him the name “Karikalan”
- **Pearl fishing** was the chief industry of the Pandya Kingdom.

Exercise

1. Recall and fill up this table

Kingdom, Flag, Emblem of the three ancient kingdoms.

2. Match the following.

1. Mudathamakkanniyar	a) Thirukkural
2. Elango Adigal	b) Porunaratrupadai
3. Uruthirankannanar	c) Silappadikaram
4. Thiruvalluvar	d) Pattinappalai

3. Name any two collections of poems that praise Pandyan Nedunchezhan

4. State whether these statements are true or false.

- Karikalan was also known as Thalaiyalanganathu Cheruvendra Pandyan.
- Karikalan built the dam at Kallanai.
- Paranar and Seethalai Sathanar were present at the court of Karikalan.
- Pandyan Nedunchezhan built a temple of Kannagi.

5. Draw the flags of the Ancient Cholas, Cheras and Pandyas.

6. Find out about Paari vallal and narrate the story.

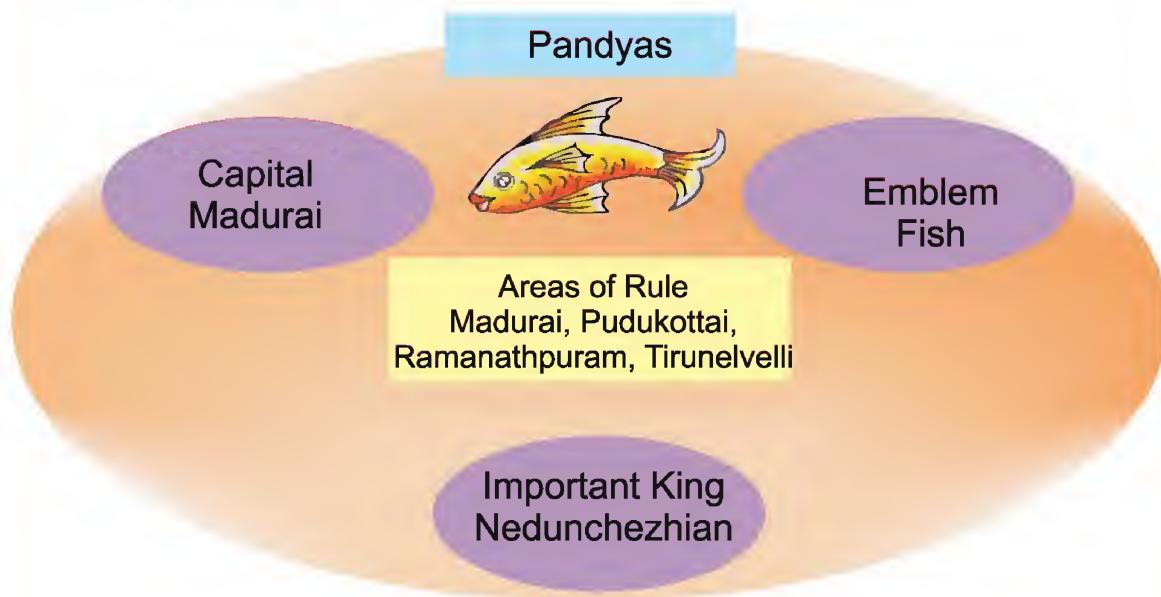
7. With which king or kingdom would you associate these places?
Madurai, Trichy and Kerala?

8. If you were a child living in Poompuhar during the ancient times what would you have seen?

Project

- Enact the story of Kannagi.
- Make crowns, jewels, flags etc. with cardboard or paper.
- Find out about the flowers and plants associated with the ancient Tamil Kingdoms.

4. Complete the mind maps for the other two kingdoms looking at the example below

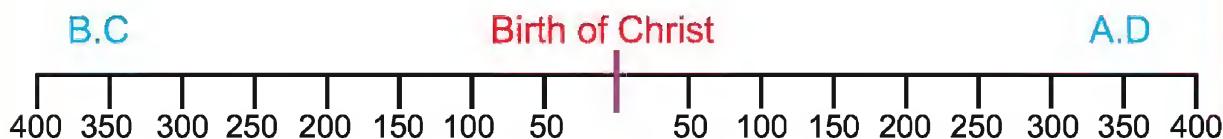


For your information

We date events based on the year of the birth of Christ.

The years before the birth of Christ are referred to as B.C.

The years after the birth of Christ are referred to as A.D.



We count backwards for the years before Christ.

We count forward for the years after Christ.

Do you Know

B.C - Before Christ

A.D - Anno Domini (In the year of the Lord)

For Teachers

North Arcot is today's Vellore and Tiruvannamalai District. South Arcot is now Cuddalore District. Teachers can relate the other places of the ancient kingdoms to the present-day districts and explain to the students.



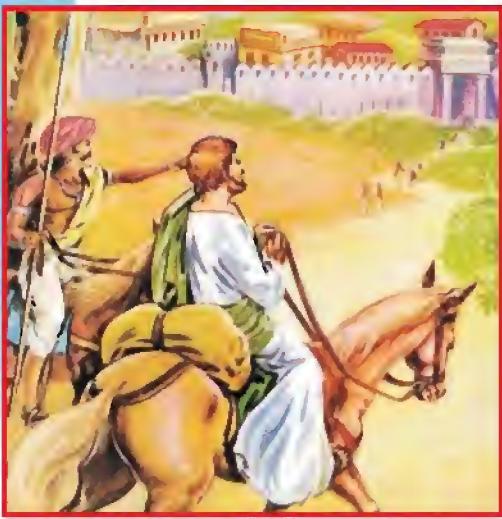
2

GOING ON TRIPS

It is human nature to be interested in new things. People have a desire to explore. From early days people looked for new places and new routes by land and sea. During the **Sangam Age** in ancient times, people of TamilNadu had trade relations with **Greece, Rome, Egypt, Arabian lands, Malaysia, East Indian islands, Srilanka and China**. Historians have stated that around 120 ships would travel between Greece and India every year. Many kings of the Sangam Age have themselves travelled to different lands for maritime trade. Similarly many people from different lands travelled by land routes and sea routes to India. Some explorers set out for faraway lands for personal thrill.

PEOPLE WHO CAME BY LAND ROUTES

India was the golden land of ancient times. It was renowned for its spiritual, cultural and material wealth. People of different countries wished to visit India to learn about its rich heritage.



Travellers came to India for trading, pilgrimages and to find out about the social, political and economic conditions of people during that time. They have given interesting accounts of their experiences regarding the above in their books. These explorers were from countries across the seas.

We shall now read about the famous travellers who came to India from different countries in the world. They came by land routes.

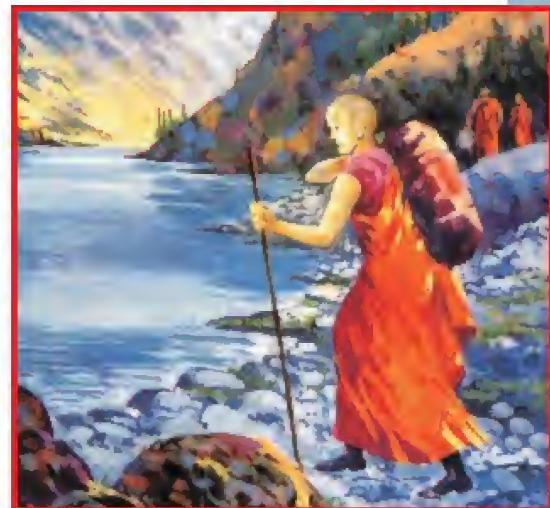
MEGASTHENES (B.C 350-290)

Megasthenes was a Greek traveller and geographer. He became an ambassador of Seleucus I of Syria to the court of Chandragupta Maurya, in Pataliputra, India. He entered India through the region of Punjab and proceeded from there by the royal road to Pataliputra which is now known as Patna.

There are accounts of Megasthenes having visited Madurai, the capital of Pandiya kingdom. His observations were recorded in "Indica". This book served as an important source to many later writers. He describes the natural beauty of the Himalayas and Srilanka. His book regarding his travels around India of that time was one of the first accounts of the country available to the west.

FA-HIEN(B.C 422-337)

Fa-Hien was a Chinese Buddhist monk. He visited India during the reign of Chandragupta II. He gathered Buddhist scriptures from India. He travelled extensively to see Buddhist monasteries, sculptures and inscriptions.



HIEUN -TSANG(A.D 603-664)



Hieun - Tsang was one of the outstanding Chinese scholars who visited India in search of knowledge. He came to India through the Kashmir valley during the reign of Harshavardhana.

He spent 12 years in the famous Nalanda university. During this time he enlarged his knowledge of Buddhism, literature, grammar, logic, medicine, crafts and the Vedas.

IBN BATUTA (1304 -1368 A.D)

Ibn Batuta from Morocco was the **first Muslim** traveller to India. He came to India through the South west Canal during the reign of **Tughlaq**.



While he was in India he served as a judge in Delhi for seven years. For nearly 30 years he travelled far and wide on horseback, on camels, by boats and by land. During his lifetime he visited around 44 countries.

He observed the political and social systems of the **Delhi Sultanate** keenly and wrote about them in his book. He has also described the geography, natural resources, and the lifestyle of the people of the countries that he visited. He travelled widely to observe the social and political state of different areas. His travels have contributed significantly to geography.

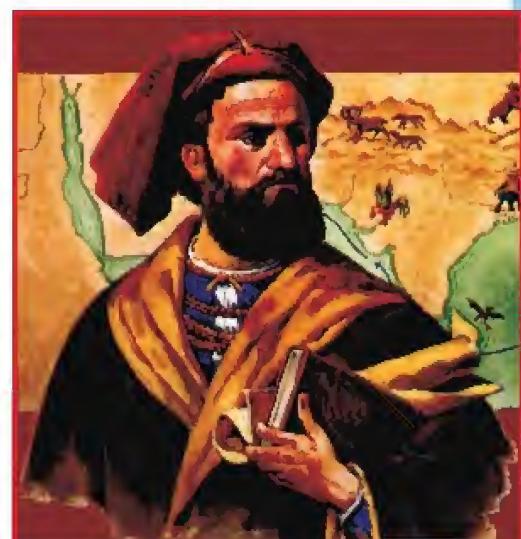
PEOPLE WHO CAME BY SEA ROUTES

Exploration by sea was both adventurous and informative. Many of the explorers of different countries travelled by sea to find routes to India and to go around the world. This led to the discovery of some new lands as well as the knowledge of the earth being round.

We shall now study about the voyages and routes of some prominent explorers.

MARCO POLO (1254 – 1324 A.D)

Marco Polo was born in Venice, in Italy. He travelled to China with his father in his childhood. First they reached the Persian Gulf. Then they travelled by land crossing the Gobi Desert in West Asia to reach **Hungwai, the capital of King Kublai Khan**.



He had a good knowledge of the lifestyle, trade, natural features and the formation of cities of the places that he visited. He served as Governor of a territory in Kublai Khan's Kingdom. He was also an ambassador of that place. He gave Kublai Khan some tips about **Western Warfare**. This helped Kublai Khan to achieve victory.

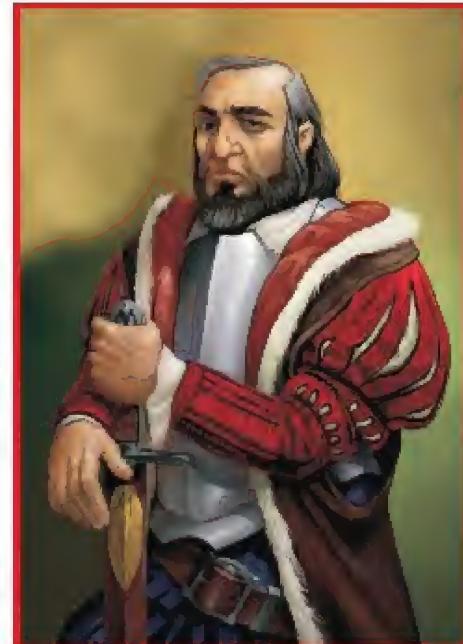
Marco Polo collected many interesting articles during his 16 years in China. He exhibited his precious collections of Chinese clothes, jewels, copper articles and diamonds on his return. He spoke with great admiration of the specialties of Eastern countries. He has recorded his experiences in his book "**Millione - II**".

BARTHOLOMEW DIAZ (1450 – 1500 A.D.)

Bartholomew Diaz was a **Portuguese sailor**. He was a knight at the court of **King John II of Portugal**. In 1487 A.D. he set out on a voyage with three ships. When he reached the tip of Africa, there was a heavy storm. Due to this he called this place "**Cape of Storms**" and returned to his homeland. Later, **King John II changed this name to "Cape of Good Hope"** because it represented the **opening of a route to the east**.

Bartholomew Diaz was the **first European** to sail to the Cape of Good Hope on the southern tip of Africa. The discovery of the passage around Africa was significant, because , for the first time, **Europeans** could **trade directly with India and the other parts of Asia**.

Using his experience with explorative travel, Diaz helped in the construction of the ships used by Vasco-da-Gama to circumnavigate the Cape and continue the route to India.



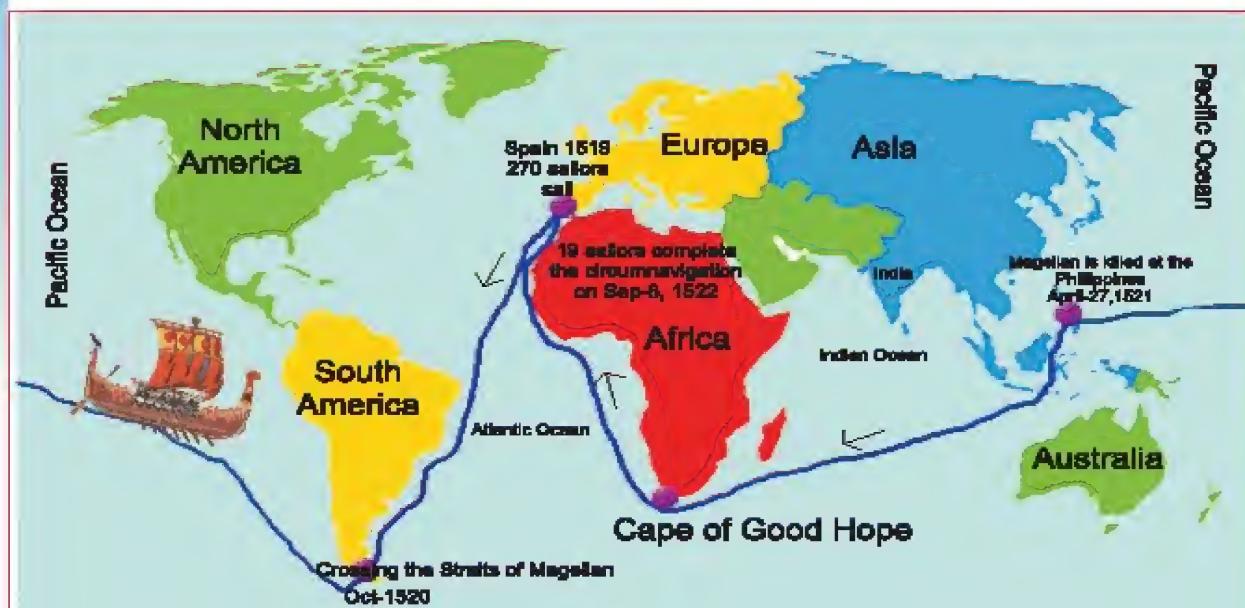
MAGELLAN (1480 – 1521 A.D.)



The credit of going round the world by the sea route for the first time goes to the **Portuguese sailor** Magellan. Accompanied by 270 sailors he set out westwards on his voyage from Spain. He reached the tip of South America through the Atlantic Ocean. He called this place **Magellan Strait**. Later, he sailed via the Pacific Ocean. As it was a calm and peaceful ocean he gave it the name of Pacific Ocean. (**Pacific means peaceful**).

At the end of his voyage he reached the island of **Philippines**. He died on his way back. Some of his companions returned to Spain.

Magellan went round the world in **3 years**. This voyage proved that the earth was **round**. He made a map of his voyage with details of directions in it. Magellan was the first to bring out the importance of a map. His voyage proved to be a guide to later travellers and traders.



Magellan's Circumnavigation of the world 1519-1522

CHRISTOPHER COLUMBUS (1451 – 1506 A.D.)

Columbus was a European sailor. He was inspired to undertake a sea voyage after reading the book of Marco Polo. In those days people went only by land routes for trade between Europe and Asia.



His aim was to reach India through the western route. In 1492, under the patronage of the Spanish king he sailed in the ship called Santa Maria from Spain.

After 50 days of sea travel he reached the islands of West Indies situated in the eastern seaside of North America.

He thought he had reached India. He also thought the natives there were Red Indians. In 1520 A.D. another sailor called Amerigo Vespucci discovered that the land that Columbus had reached was not India but a new land. It was later called America after him.



Christopher Columbus' First Journey 1492

VASCO-DA-GAMA (1460 – 1524 A.D)



Vasco-da-Gama was a Portuguese sailor. He began his voyage from the port of Lisbon in Portugal and reached the **Cape of Good Hope** in Africa. He crossed the Indian Ocean with the help of an Indian merchant. Following this he travelled via the Indian Ocean and reached **Calicut** on the west coast of India on May 20, 1498.

He was the first person to discover a sea route from Europe to India. This helped sea trade from India to other lands. It also laid a foundation for the establishment of European colonies.



Vasco-da-Gama's route map 1497-1498

Uses of Travel

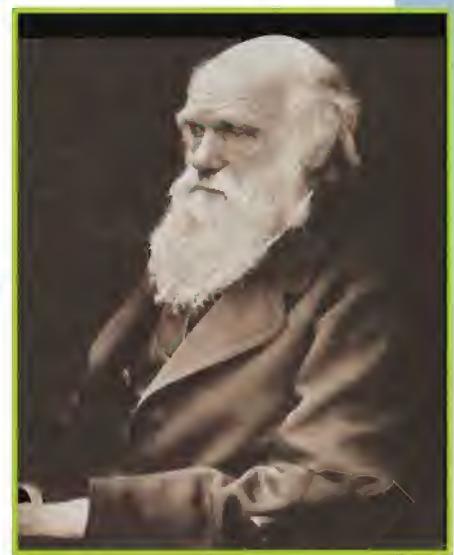
1. Travel can be through many ways namely land, water and air. This was established through the experiences of various explorers.
2. Modes of transport increased and improved due to these travels.
3. Through sea voyages we have obtained maps, knowledge about the weather, and the **Mariner's compass**.
4. We have learnt about the culture and lifestyles of different lands.
5. Travel has helped to establish friendship between different countries.
6. People travel to various countries to enlarge their knowledge and improve their education.

Do you know?

Ptolemy was the first person to draw a map.

CHARLES DARWIN

He sailed in a ship called **Beagle** around the world. He studied the different species in the world and wrote a book on them. He said that man had originated from the Ape in his book "**Origin of Species**".



Do you know?

Ptolemy's map was the model followed by later cartographers.

Interesting Facts

- ★ The distance in the sea is measured in "**nautical miles**".
- ★ The speed of a ship is measured in '**knots**'.
- ★ "**Victoria**" was the name of the ship that sailed around the world.

EXERCISES

I. Complete the following:-

1. Going from one place to another _____.
2. The book of Hieun Tsang _____.
3. Vasco – da – Gama landed here in India _____.
4. Book of Megasthenes _____
5. Ancient University in India _____

II. Pick out the right answer.

1. The traveller who visited India during the rule of Chandragupta II was:-
a) Fa-Hien b) Hieun Tsang c) Marco Polo
2. The sailor from Venice was:
a) Magellan b) Marco Polo c) Viramamunivar
3. Megasthenes visited Madurai during the rule of
a) Cheras b) Pallavas c) Pandyas

III. Answer briefly

1. State two purposes of travel
2. What did Hieun Tsang learn in India?
3. Write two sentences on Megasthenes.
4. Write two sentences on Bartholomew Diaz.

Project

- I. Find out about 2 more travellers of the world who have contributed to the development of knowledge.
- II. Write about your locality as though you are a traveller who is seeing it for the first time.

I. On the given map, mark the following using the colours suggested.

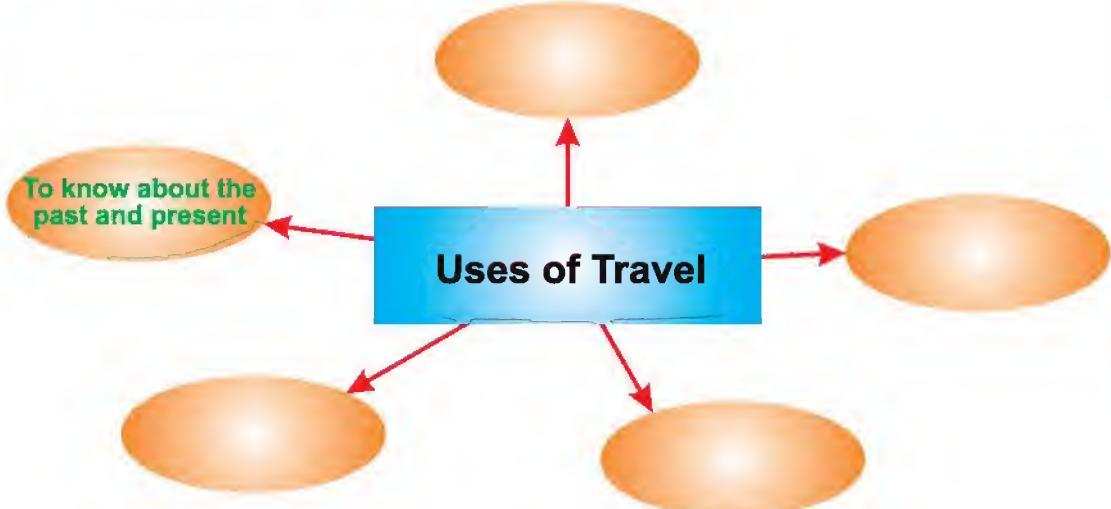
A.

- a) Route of Vasco-da-Gama in green.
- b) Route of Columbus in black.
- c) Route of Magellan in red.
- d) Colour the seas blue.

B. Who took the longest route?



II. Complete the following mind map:





3 OUR WORLD

"Mother Earth provides enough to satisfy every man's need, but not every man's greed".

M.K.Gandhi.,

Our Earth is a **unique planet** in the solar system. It is the fifth largest planet in the solar system and the third planet from the sun. Since, our planet is at a convenient distance from the sun, it is neither very hot like Mercury nor very cold like Pluto. It is the **only planet** in the solar system which supports a variety of life.

WHY IS LIFE POSSIBLE ON THE EARTH?

Life is possible on the Earth because of the following reasons:

1. Our Earth has an **atmosphere** which is composed of many gases which are necessary for life.
2. **Water** which is essential for life is available on the Earth in abundance. Water is found in oceans, rivers, lakes and also under the ground.

HOW WAS THE EARTH BORN?

Before the solar system was formed, matter was floating in a cloud of dust and gas. Part of the cloud contracted to form the Sun. The rest of the cloud substance contracted more to form large clumps of particles of ice and rock.



These particles gradually fused together to form planets such as the Earth. According to scientists planet Earth was formed around 4,600 million years ago. The Sun and other planets were also formed around the same time.

Do you know?

Our planet is about 8,000 miles (12,800 kilometres) in diameter and 25,000 miles (40,000 kilometres) in circumference.

FOUR REALMS OF THE EARTH

The life zone on the Earth's surface is known as Biosphere. Biosphere is dependent on Lithosphere, Hydrosphere and Atmosphere. These are known as Realms of the Earth.

LITHOSPHERE

The entire surface of the Earth consisting of its crust, which is made up of solid rocks is known as Lithosphere. Continents and Landforms constitute the Lithosphere.

HYDROSPHERE

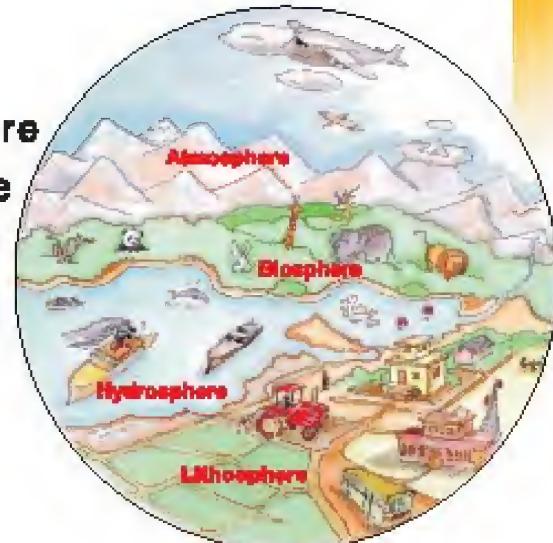
The major water bodies like oceans, seas, lakes, ponds etc constitute hydrosphere. 'Hydro' refers to water.

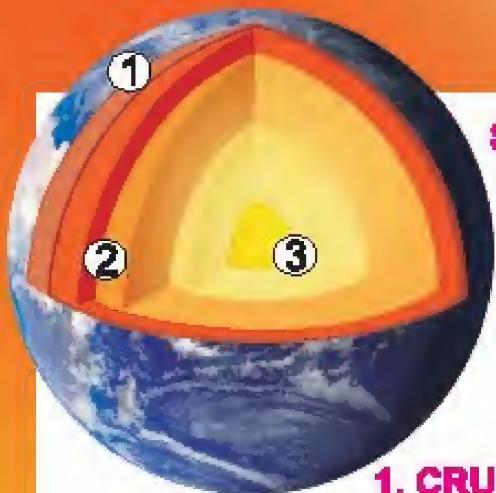
ATMOSPHERE

The blanket of air surrounding the Earth's surface is known as atmosphere.

BIOSPHERE

The narrow contact zone where Lithosphere, Hydrosphere and Atmosphere come into contact is called Biosphere. The plants, animals and human beings are a part of Biosphere.





STRUCTURE OF THE EARTH

The Earth consists of three layers. They are

1. Crust
2. Mantle
3. Core (Inner Core, Outer Core)

1. CRUST

It is the outer most layer of the Earth.

Continents and oceans lie in this layer.

It is made up of rocks.

It contains everything that is essential for life.

2. MANTLE

This layer is below the crust.

Its upper part is made of solid rock, whereas the lower part consists of molten rocks.

It is from here the magma (molten rock) comes out when a volcano erupts.

It contains a lot of iron and magnesium.

3. CORE

It forms the centre of the Earth.

Outer core contains iron and nickel in a molten state. Some sulphur is also present.

The Inner core is a solid ball almost entirely made up of Iron.

Do you know?

Aryabhatta, one of the great astronomers of ancient India was the first to say that the Earth is round and it rotates around its axis. At the young age of 23 he wrote a book on astronomy called **Aryabhatiya**.

LANDFORMS AND WATER BODIES OF THE EARTH

71% of the earth's surface is covered by water and 29% by land.

The large masses of land are called continents. The large water bodies are called oceans.

THERE ARE SEVEN CONTINENTS

- Asia
- Africa
- North America
- South America
- Europe
- Antarctica
- Australia

Do you know?

- Asia is the largest continent
- Africa is the second largest continent
- Australia is the smallest continent
- Antarctica is an icy continent

These continents are also called landforms of the first order. Due to the extreme cold temperature, no life exists in Antarctica. Therefore Antarctica is called the **Dead continent**.

All the above continents have within them different kinds of landforms. These are landforms of the second order. They are:-

MOUNTAINS

Masses of land higher than the surrounding areas.

HILLS

Areas of high pieces of land but not as high as mountains.



(eg)

1. The Himalayas
2. Andes
3. The Alps
4. Rocky Mountains
5. Kilimanjaro

- Asia
- South America
- Europe
- North America
- Africa

PLATEAUS

Level areas of elevated land.



Plateau

(eg)

1. Tibetan Plateau — East Asia
2. Deccan Plateau — Asia (India)
3. Colorado Plateau — North America

PLAINS

Areas of land having very little difference between the highest and lowest points.



Plains

(eg)

1. Indo – Gangetic Plains — Asia (India)
2. Liyanas — South America
3. Lombardy Plains — Europe

VALLEYS

Narrow pieces of land between two mountains.



Nile Valley

(eg)

1. Nile Valley — Africa
2. Grand Canyon — North America
3. Indus Valley — Asia

PENINSULA

Land surrounded by water on three sides and land on one side.

The Indian sub-continent is called a Peninsula since it is surrounded by the Bay of Bengal in the east, the Arabian Sea in the west and the Indian Ocean in the south. On the northern side alone it is a stretch of land.



ISLANDS

Pieces of land surrounded by water on all sides.



Andaman Nicobar Islands

(eg) Sri Lanka, Andaman Nicobar Islands, Lakshadweep.

DESERTS

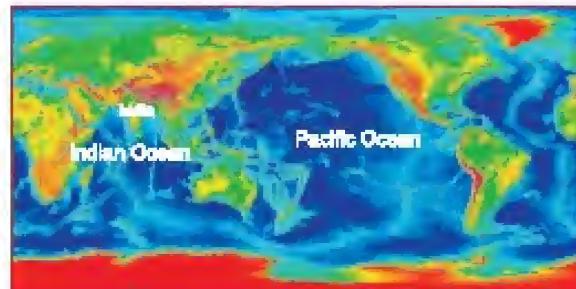
Large stretches of arid land where no vegetation except cactus and date palms is found.



(eg) Thar — India
Sahara — Africa
Arizona — North America

The large water bodies are called oceans and seas. There are four large oceans on the Earth. They are

- The Pacific Ocean**
- The Atlantic Ocean**
- The Indian Ocean**
- The Arctic Ocean**



Do you know?

The Pacific Ocean is the largest ocean which covers more than one-third of the Earth's surface.

The Atlantic Ocean is the second largest ocean.

Only the Indian Ocean has been named after a country.

Besides these, there are the Antarctic sea, the Mediterranean sea, Caspian sea and Black sea which are also large water bodies.

OTHER WATER BODIES ARE:

Waterfalls	—	Large volumes of water come gushing down from a height to areas below.
Rivers	—	Huge areas where water flows along the surface of the land.
Streams	—	Small areas of water.
Lakes	—	Areas of water surrounded by land on all sides.

INDIA AND ITS LAND FORMS

The landform of our country is divided into five regions based on the height and structure of the land. They are:

1. The Northern Himalayas
2. The Gangetic Plains
3. The Thar Desert
4. The Southern Peninsular Plateau -(Deccan Plateau)
5. The Eastern and Western Ghats.

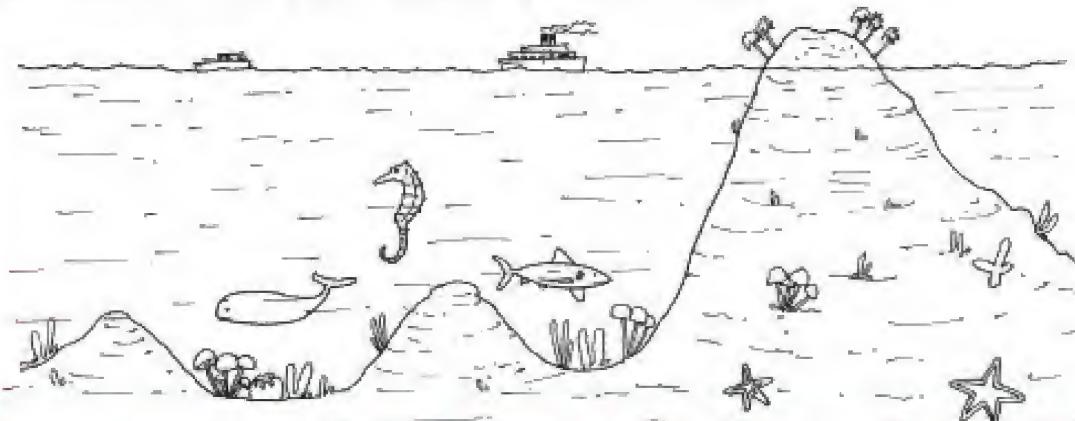
The Southern part of India is known as Peninsular India.

Examples of Islands are the Andaman and Nicobar islands and Lakshadweep.

Now you have an idea of our planet Earth and the different land and water forms on it.

THE OCEAN BED/ THE SEA BED

The Ocean bed is not level ground. Even here we can see mountains, hill ranges, and mounds as on land. The earthquakes and volcanic eruptions under the ocean bed are the reasons for this. As these happen under the ocean/sea bed, they are not visible to us.



Can you see mountains on the sea bed? If yes, colour them suitably.

ONE LAND MASS

During the formation of the Earth there was a large land mass called pangaea. This land mass moved slowly and in the course of thousands of years continental plates were formed.

The continental plates kept moving. Gradually portions separated to form some continents. It is believed that these land forms are still moving.

The Seven Continents formed on the Continental Plates are

1. Asia
2. Africa
3. North America
4. South America
5. Europe
6. Australia
7. Antarctica

North America, South America, Asia, Europe and Africa are connected to each other. Australia is surrounded on all four sides by water. Antarctica is totally covered by ice.

SAVE OUR PLANET

The earth is our real wealth. Let us not do anything to destroy it. It provides all the natural resources like water, land, climate etc. for the maintenance of life. In the process of technological and industrial development, human beings have started destroying the natural resources. This has resulted in dangerous effects like the increase of the hole in the Ozone Layer, global warming, rise in the average temperature, melting of glaciers, volcanic eruptions, earthquakes and pollution.



The responsibility of saving our earth lies in the hands of human beings. We must take steps to reduce pollution so that the future generations will live peacefully.

Some Interesting Facts

- The point at which the sky and the Earth appear to meet is called the **horizon**.
- The place where the land and sea meet is called the **coast**.
- Atmosphere protects the earth from **meteorites**, which are small rocks moving about in space.
- A large mass of ice formed by snow, a mountain that moves very slowly down a valley is called a **glacier**.
- Asia is the most populous continent of the world. Australia is known as the land of **Golden Fleece**. Australia is also an island.
- Ports and harbours have been developed along the Atlantic coast. The world's busiest trade routes cross the Atlantic ocean.

EXERCISES

I . Fill in the blanks

1. The large masses of land are called _____
2. _____ is the biggest continent.
3. _____ is named after a country.
4. _____ refers to water.
5. _____ is the outermost layer of the Earth.

II. Answer in a sentence or two

1. Name the continents on the Earth.
2. What is an ocean?
3. Name the five landforms of India.
4. Which is the largest ocean that has been named after a country?
5. What are lakes?

III. Define the following

1. Mountain
2. Plain
3. Peninsula
4. Water Falls
5. Islands

IV. Answer briefly

1. Four realms or layers of the Earth.
2. The structure of the Earth.
3. Why is life possible on the Earth?
4. The Ocean bed.

V. Activity

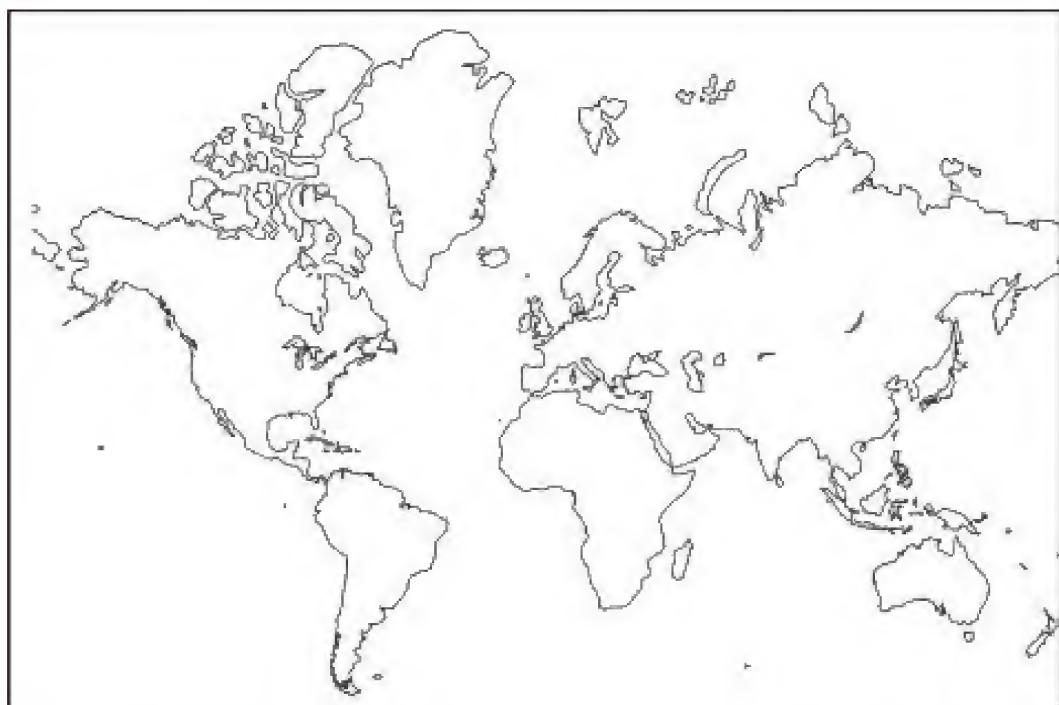
On a Map of the world mark the four large oceans on the Earth.

VI. Guess who I am

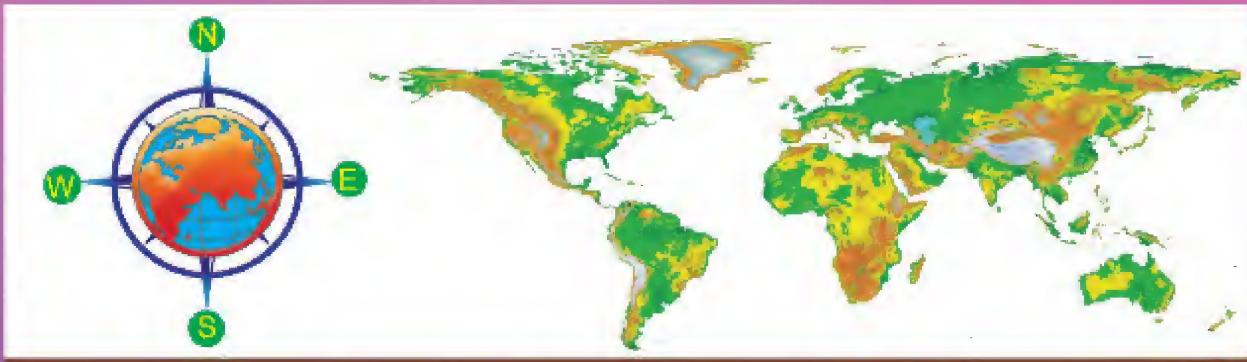
1. I am a continent. I am also an Island. People call me the land of Golden Fleece. Who am I? _____
2. I am the most populous continent. India is a part of me. Who am I? _____.
3. I am a big ocean. I cover one-third of the earth's surface. Who am I?

VII. Project

1. Prepare a landscape on a piece of cardboard. Show a hill, a stream, land, trees and a house. Make models using clay, cardboard, colours etc.
2. On a map of the world using the colours suggested mark the following.



	Oceans		North America
	Asia		South America
	Africa		Australia
	South Africa		



4

REPRESENTATIONS

You have learnt about the Earth in the previous lesson. You must be interested in knowing how the earth looks. In order to help us to know clearly about the earth, its shape and what covers its surface, there is an instrument called the **Globe**.

A GLOBE

A globe is a small model of the Earth which gives us an accurate picture of the Earth's surface for general reference. It shows us the oceans, seas and continents of the Earth on a small scale.



Look at a globe. It is a spherical ball that spins round a rod with two ends. The earth rotates on an imaginary line called **Axis**. The northern most point on the axis is called the **North Pole** and the Southern most point is called the **South Pole**.

MAP

Another representation of the Earth is a Map.

The map is a drawing of the whole or a part of the earth's surface on a flat sheet. Maps give more specific and detailed information as compared to a globe. Maps depict signs, directions and locations of regions, countries, oceans etc.

A book of maps is called an **Atlas**. (Picture – world map showing the continents, oceans, equator etc.,)

Map making is called Cartography. Map makers are Cartographers



DIFFERENT TYPES OF MAPS

- i. Relief Maps — Show the physical features of the world.
- ii. Political Maps — Show Countries, States, Districts, Capitals etc.
- iii. Climate Maps — Show the different types of climate in the world.
- iv. Minerals — Show the minerals and the places they are found in.
- v. Transport Maps — Show the location of places and the routes to them.
- vi. Agriculture — Show the different crops and the regions they grow in.

Something Interesting

Every map has a key which indicates what the colour and symbols used in the map stand for.

Eg. : 1) Green stands for low land, 2) Blue stands for oceans.

Similarly a dark dot indicates a city and a boundary can be shown by dark lines.

THE IMPORTANCE OF MAPS

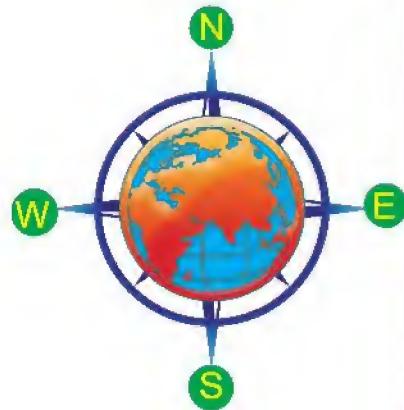
Maps are useful for **geographers** as well as **historians**. They help us to understand the physical features and different aspects of any place. They are essential for sailors and the armed forces to locate or identify places. **Tourists** use maps to follow directions.

Colours	Places
Blue	Oceans, Seas, Rivers, Lakes
Green	Plains
Yellow	Plateaus
Brown	Mountains, mountain ranges, hills



DIRECTIONS

We need to know directions to understand the locations on the maps. North, South, East and West are the basic four directions.



SYMBOLS

Man has created symbols to depict places on the map.

Eg.



River



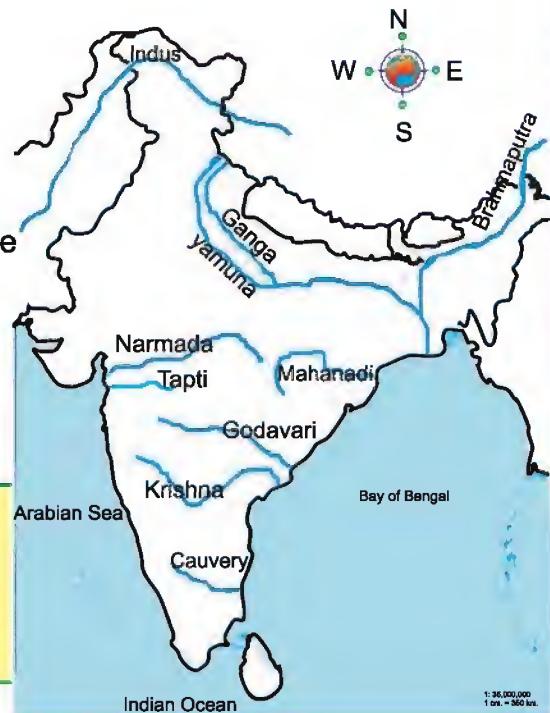
International Boundary line



State boundary line



Capital



Rivers have been shown on the map of India. Find out the use of other symbols from the atlas.

Globe	Map
Round	Flat
Reflects the shape of the earth.	Reflects the surface
Shows the entire features.	The map shows either the whole or in parts.
We can see one part at a time when we rotate the globe.	We can see the entire world in a spread out manner.
Difficult to carry it around	Can be easily carried to different places.
Minute details cannot be seen	All the details can be presented.

THE ATLAS

A book of maps is called an **Atlas**. We can find out about the different land forms and continents on the Earth. At the end of the book information is given in alphabetical order. This helps us in identifying things from the maps.

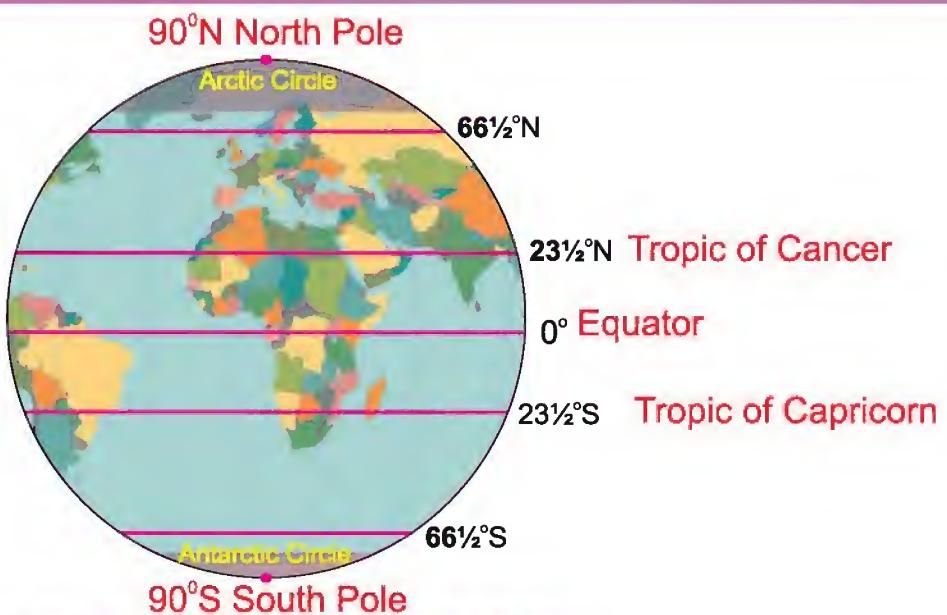
Using the atlas is necessary while learning about the different countries, landforms, resources, road and waterways. Maps help us to understand the different land and water forms in the world.



LATITUDES

In the map, some imaginary lines are drawn horizontally and vertically. The horizontal lines are called **latitudes** and the vertical lines are called **longitudes**.

Latitudes are imaginary circles running from east to west. One such imaginary line of latitude is the **Equator**. The Equator divides the earth into two equal halves known as **hemispheres**. The northern part of the earth above the equator is known as the **Northern Hemisphere**. The southern part of the earth below the equator is known as the **Southern Hemisphere**. Latitudes are measured with the unit “degree” ($^{\circ}$). Latitudes are also called **parallels**.



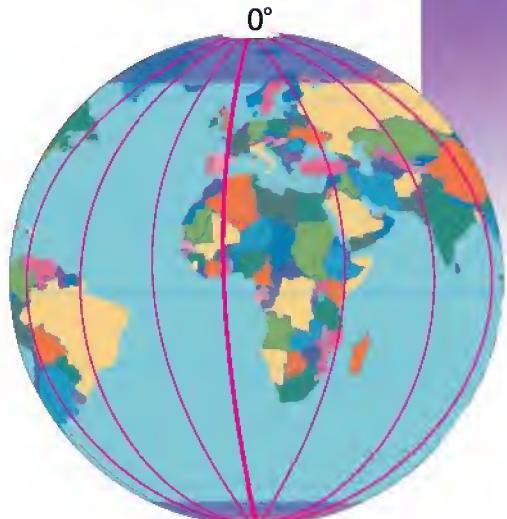
IMPORTANT LATITUDES OF THE EARTH

1. The Arctic circle $66\frac{1}{2}^{\circ}$ N.
2. The Tropic of Cancer $23\frac{1}{2}^{\circ}$ N.
3. Equator 0°
4. The Tropic of Capricorn $23\frac{1}{2}^{\circ}$ S.
5. The Antarctic Circle at $66\frac{1}{2}^{\circ}$ S.

LONGITUDES

Besides latitudes, there are also circular lines running through the North Pole and the South Pole. These lines are called **Longitudes** or **Meridians**. The central longitude that divides the earth into the **Eastern Hemisphere** and the **Western Hemisphere** is known as the **Prime Meridian**. The prime meridian runs through the **Royal Observatory** at Greenwich in London in the United Kingdom. It is also known as the **Greenwich Meridian** which helps us in calculating the time.

The countries to the east of the Prime Meridian will face the sun first. Gradually, as the earth moves, the countries in the Western Hemisphere will face the sun. That is why the countries like Japan face the sun first and America faces the sun last.



The time at Greenwich is observed as the mean time and hence it is called the **Greenwich Mean Time** (GMT). Local time of a particular country can be calculated based on the **GMT**.

Do you know ?

Latitudes and Longitudes help us to define the location of any place in the world. Latitudes and Longitudes intersect each other at right angles forming a Grid. This network is helpful in locating the different places on the map (or) the globe.

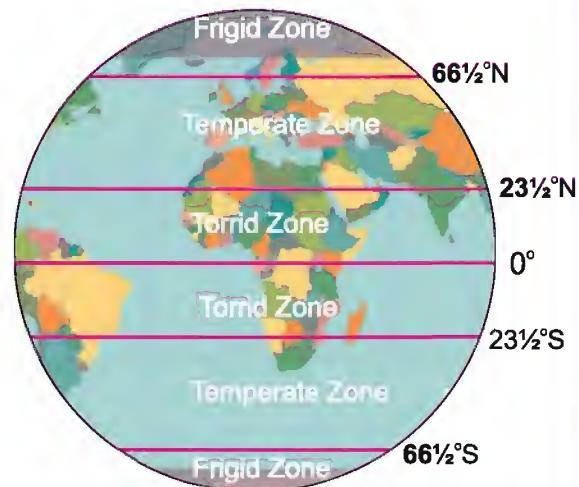
India is located to the east of the Prime Meridian and it is the seventh largest country in the world.

Activity

Take a ball and pierce a knitting needle through it like the axis. Wind a wool yarn touching North and South Pole. You will create longitudes.

DIFFERENT ZONES OF THE EARTH

The Earth is like a ball tilted on an **axis**. Therefore when the earth goes round the sun it is found that direct rays of the sun fall on the **Equator**. At this time, the distance of the **Sun** is closest to the **Earth**. Away from the Equator on the other latitudes the rays of the sun are slanting. Thus we have different **zones** of the Earth.



- 1) The Torrid zone (or) the Tropical zone is the hottest part of the earth.
- 2) The Temperate zone lies above the Torrid zone. It receives slanting rays, so it is cooler.
- 3) The Frigid zone lies around the poles. They receive very little slanting rays for half of the year and the other half of the year receive no light at all. This is a very cold zone.

Do you know ?

Direct rays hit a small area making it very hot. Slanting rays hit a larger area so the heat is less.

WEATHER AND CLIMATE

There is constant change in the atmosphere that surrounds the Earth. The changes in a particular area make the **weather** of a place. In other words weather is the condition of the atmosphere at a particular place and time. It may change from **day to day, time to time and place to place**. Weather affects us in many ways. For eg. we choose our clothes according to the weather. Weather also affects our daily activities.

Climate is the average weather condition of a place over a long period of time. Climate influences things like our clothing, housing, transportation and the food we eat. The factors that influence climate are latitudes, altitude, ocean currents, wind pattern etc. The presence of high mountains, oceans and deserts in an area also affects the climate in and around that area.

Do you know ?

People who study the climate are called climatologists.

People who forecast weather are called meteorologists.

MOTIONS OF THE EARTH

Rotation and Revolution are the two motions of the earth.

ROTATION OF THE EARTH

It means the spinning movement of the earth on its own axis. It completes one rotation in 24 hours. This is called a **solar day**. Rotation causes day and night.

REVOLUTION OF THE EARTH

Revolution is the movement of the Earth around the sun on an **elliptical orbit**. The earth completes one round in 365 and $\frac{1}{4}$ days. It is because of this revolution of the Earth that we have changing seasons.

Some Interesting facts

- * Wind is caused by uneven heating of the air around the Earth.
- * Humidity is the presence of moisture in the air. Wind blowing over the sea collects moisture and makes the climate in the coastal areas very humid. Humidity makes us sweat a great deal.
- * The farther we are from the Equator, the colder the climate.
- * The Equator divides the Earth into two equal parts. Hence it is called the great circle, while all other latitudes are called small circles.

EXERCISES

I. Fill in the blanks

1. A book of maps is called _____.
2. _____ divides the earth into two equal halves known as hemispheres.
3. _____ maps show the physical features of the world.
4. The Earth rotates on an imaginary line called _____.
5. The _____ zone lies around the poles.

II. Answer in a sentence or two

1. What is a globe?
2. What is the Rotation of the Earth?
3. Who is a climatologist?
4. Why is the Frigid zone very cold?
5. What are the two motions of the Earth?

III. Define the following

1. Weather and Climate
2. Revolution of the Earth.

IV. Answer briefly

1. Difference between a globe and a map.
2. Latitudes and Longitudes.

V. Guess who I am

1. I am the central longitude that divides the earth into the Eastern and Western Hemispheres. What am I known as ? _____
2. I am a colour. I represent the oceans on maps. Who am I?

VI . Activity

Take a ball. Stick a world map around it. Mark the following on it:



Northern Hemisphere



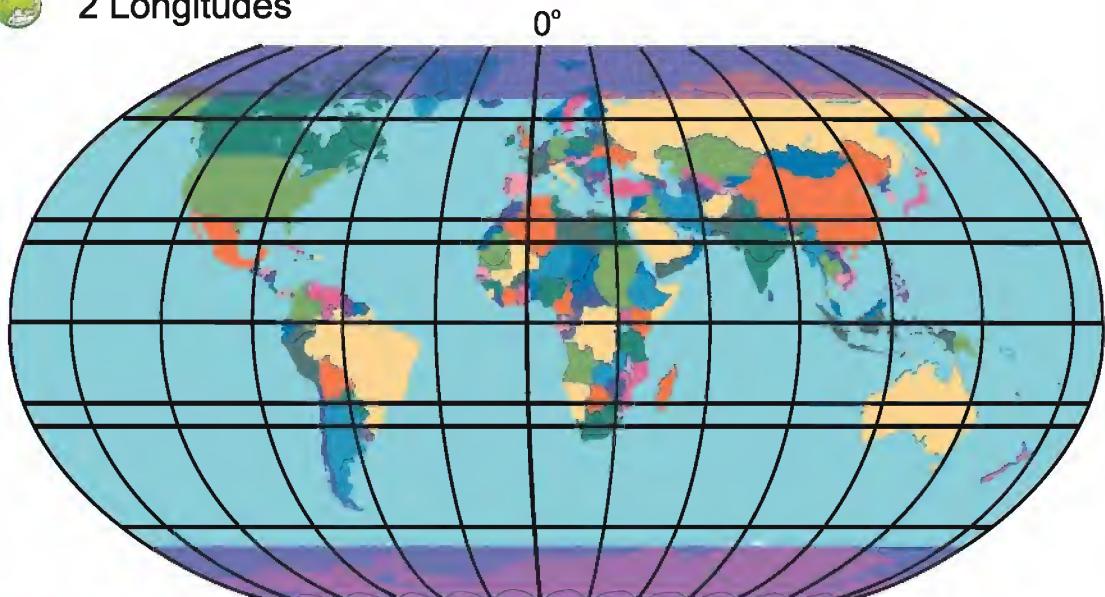
Southern Hemisphere



2 Latitudes



2 Longitudes



VII. Project

1. Take a ball. Use some pieces of thread. Stick the thread around it showing:
 - a) Equator
 - b) Tropic of Cancer
 - c) Tropic of Capricorn
2. Find out why we have a leap year.

Activity: Something Interesting

Take a torch. Hold it in one hand and turn the globe with the other hand. Can you see the longitudes moving towards the sun and then further away? This is how we determine time.



5 THE GROUND UNDER OUR FEET

Land provides soil for agriculture and forests. Fertile soil and uniform plains support thick human settlement.

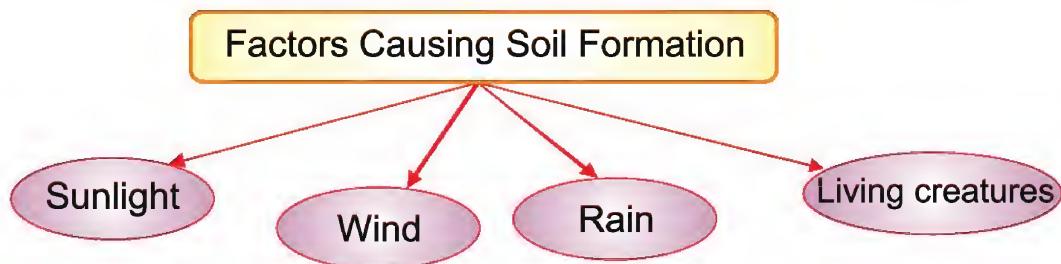
In this lesson, we are going to learn about different types of soil and forests and how they are useful for people and the development our country.

WHAT IS SOIL?

Soil is a thin surface layer of the earth mixed with minerals and vegetative materials. Agricultural activities and growth of plants and trees depend on the fertility of soil.

HOW WAS SOIL FORMED?

Formation of soil is a very long process. Due to the heat of the sun the force of winds and rains, big rocks broke into tiny particles which came together to form soil. The growth of vegetation depends on the type of soil.



MAJOR TYPES OF SOIL

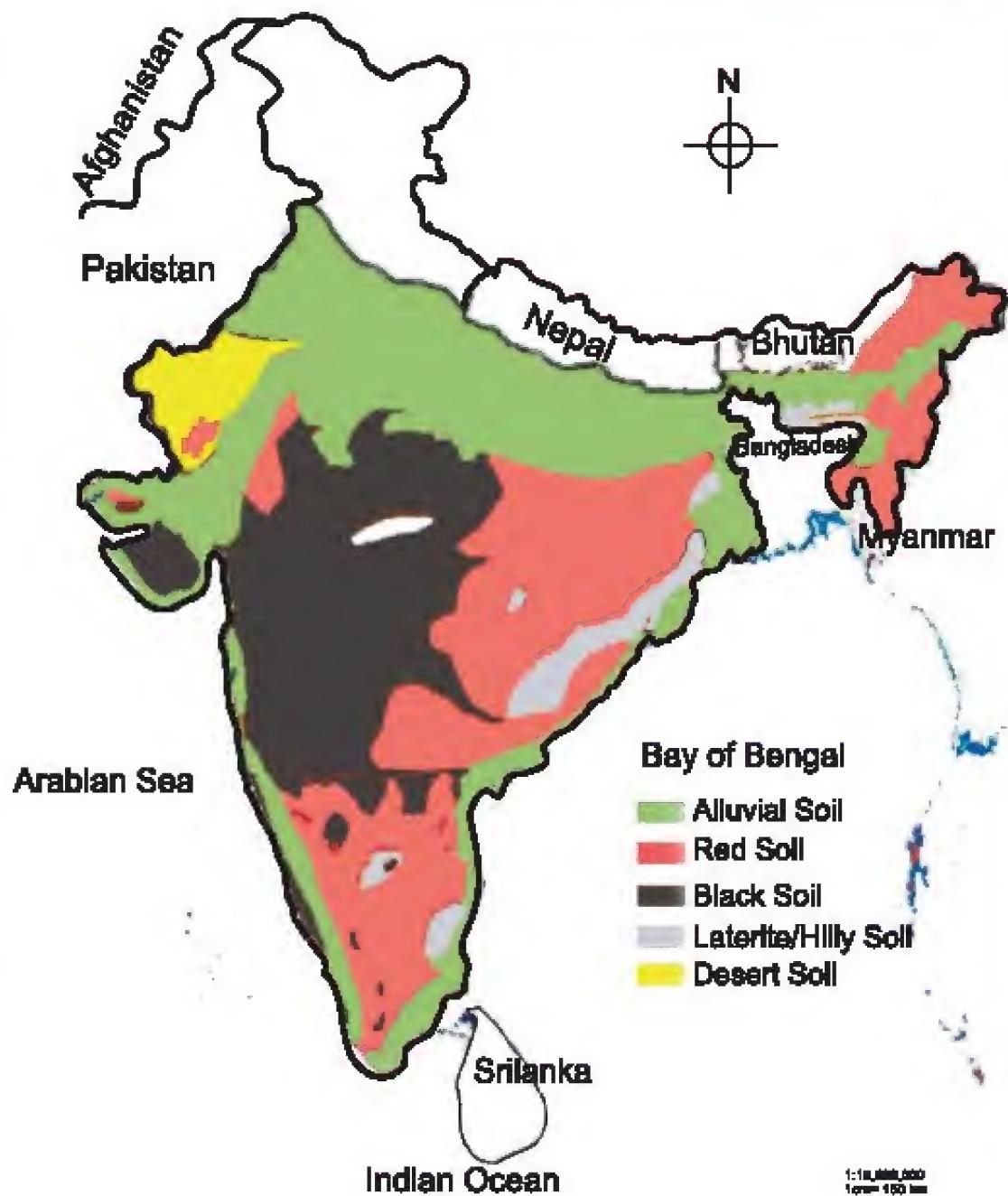
Look at the soil map of India, you can see different colours in different areas which indicates that India has various types of soil.

Alluvial soil, Black soil, Red soil, Laterite soil, Forest and hilly soil and Desert soil are the important types of soil found in India.

Do you know?

It takes 1000 years for a centimetre of soil to be formed.

India - Soil Resources





ALLUVIAL SOIL

Alluvial Soil can mostly be found in northern parts of India and East Coastal Plains . The soil is very fertile and soft in nature. This soil is pushed by the waters of rivers and settles in plains. Rice, Wheat, Sugarcane and Pulses grow well in this soil.

Do you know ?

River basins grow rice in abundance . So these places are known as Rice Bowls of India.

BLACK SOIL

This soil is also known as Black Cotton soil because cotton grows well in this soil. Black soil is formed in the Deccan Plateau because of volcanic activities which happened thousands of years ago.



Do you know ?

In villages, children play with this soil and make a number of toys because it is sticky in nature and retains moisture (wet condition) for a long time.

Cotton and sugarcane grow well in the black soil.



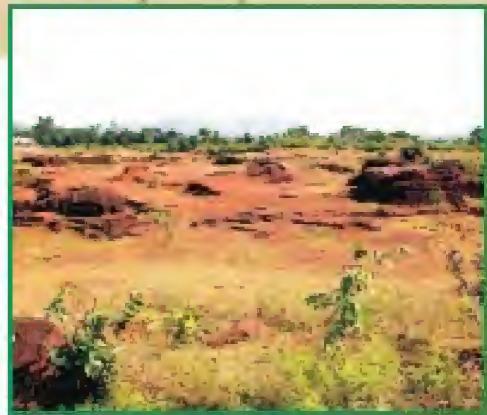
RED SOIL

The reddish colour in the soil is due to the presence of iron oxides that are mostly found in the Eastern side of India. Most parts of Tamil Nadu, Andhra Pradesh, Karnataka, East Rajasthan and Orissa have red soil.

Groundnuts, ragi, pulses, chillies, tobacco, vegetables and fruits are cultivated in the red soil.

LATERITE SOIL

Laterite soil is found mainly in plateaus and mountain slopes of India in Assam, Nilgiris and Chota Nagpur. Most of its minerals are washed away by rain water. Therefore, this soil needs fertilizers and water for agriculture.



Tea, rubber and coffee plantations are found here. Cashewnuts, pepper, cloves and cardamom are also grown here.



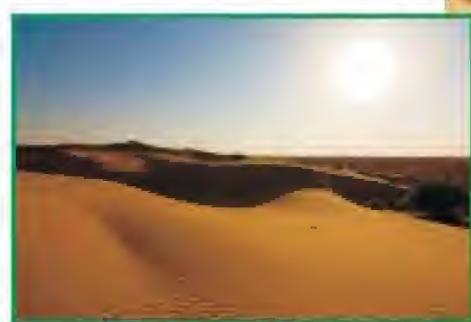
FOREST AND HILLY SOIL

The Himalayas, Western and Eastern Ghats of South India have forest and mountain soil. This soil is very rich in humus and organic matters because of the abundance of trees found in this region. Humus refers to the dead and decayed parts of animals and plants.

Tea, Coffee, Rubber and spices are the major plantation crops grown here.

DESERT SOIL

The Thar Desert is located in the western side of Rajasthan. The desert has infertile, dry soil called desert soil. The desert soil in Rajasthan, parts of Gujarat and Punjab is not suitable for agricultural activities. Only date palms and cactus can be found here.



IMPORTANCE OF SOIL RESOURCES

Soil is the most important natural resource for agriculture and forest wealth.

Food crops like wheat, rice, millets and cash crops like sugarcane, cotton, Tea, Coffee and Rubber need soil for growth. They directly and indirectly help the growth of our National Income and provide employment or work for nearly 75% of the people of India.

Forests depend mainly on soil wealth. Forests provide us with many goods and support wild animals and attract thousands of tourists.

Therefore we should take care of our soil resources.

WHAT IS HAPPENING TO SOIL RESOURCES NOW?

Day by day the population is increasing rapidly. Soil resources are improperly used by man.



Man has destroyed the major parts of forests for construction of roads, railways, dams, industries and human settlement. Cutting down trees is called **Deforestation**. As a result the upper

layer of soil is eroded, taken away by flood, therefore the fertility of the soil is lost. Removal of top soil is called **Soil Erosion**.

To get more food production, chemical fertilizers are used which increase the chemicals in soils, therefore, underground water is polluted in most parts of India.

Activity: You taste your well water and ask your parents how the taste of the water was ten or fifteen years ago. They will explain the reasons.

How do we conserve or protect our soil resources?

Here are some important methods:

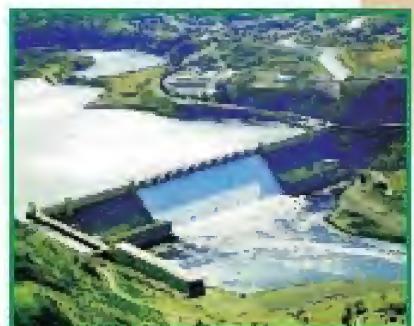
1. Planting trees



Planting a large number of trees in the vacant land in a line and around our houses. This activity is called **Afforestation**. Roots of the trees will prevent soil erosion.

2. Constructing small dams / check dams

Across rivers and in the farm lands, making small mounds, so that rain water can be stopped and soil erosion can be controlled.



3. Contour ploughing

Ploughing farm lands in Circular Method to stop the flow of water.



4. Terrace farming

To prevent soil erosion.



Activity

Next time you go for a picnic, look around and note the colour of soil and crops cultivated.

Interesting Facts

- Soil is made of 45% rock particles, 25% water, 25% air and 5% leaves.
- India is the largest producer of pulses in the world, both in quantity and variety.
- Regar is the name of black soil in India.
- 20% of the soil of India has been affected by erosion.
- Hungarian Paprica is the type of chilli grown in abundance in India.
- 24% of the soil of India is alluvial soil.
- The Green Revolution has led to many improvements in agricultural methods and irrigation.

Exercises

I. Fill in the blanks

1. _____ is necessary for the growth of vegetation.
2. Soil is formed due to the heat of the _____, the force of _____ and _____.
3. Alluvial soil is _____ and _____.
4. _____ soil retains moisture.
5. Grow more trees to prevent soil _____.

II Choose the correct answer

1. Cotton grows well in _____ soil.
(Black soil, Desert soil, Red soil)
2. _____ is very rich in humus and organic matters.
(Laterite soil, Alluvial soil, Hilly soil)
3. Planting a large number of trees in vacant land is called _____.
(Deforestation, Afforestation, contour farming)
4. Rajasthan desert has infertile, dry soil called _____.
(Desert soil, Black soil, Alluvial soil)
5. Rice and wheat grow well in _____ soil.
(Black, Laterite, Alluvial)

III Match the following

1. Tea	—	a) Rajasthan
2. Cotton	—	b) Karnataka
3. Wheat	—	c) Assam
4. Groundnut	—	d) Punjab
5. Date palms	—	e) Deccan plateau

IV. Answer briefly

1. Define soil and name the different types of soil.
2. How is soil useful to us?
3. Explain the term Deforestation.

V. Answer in a paragraph

1. Why is there need to conserve our soil resources? Explain the methods of soil conservation.

VI. Activity

1. When you go to different places collect samples of soil and write down your observations.
2. Discuss with your friends about the soil found in your area and the plants and trees that grow there.

Project

Display the samples of soil you have collected in packets on a poster with a few details on them.



6

OUR GREEN COVER

NATURAL VEGETATION

Just as soil is important for agriculture and human settlement, natural vegetation is important for rainfall and wild life.

Natural vegetation in India is not uniform. Climate, soil type, amount of rainfall and the competition with other organisms, influence the growth of plants in distinctive forms.

MAJOR TYPES OF FORESTS

Indian forests are broadly classified into five types. They are

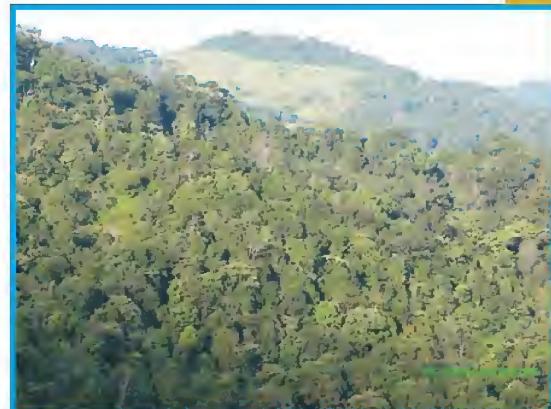
1. Tropical Evergreen Forests
2. Tropical Deciduous Forests (Monsoon forests)
3. Mangrove Forests
4. Thorn Forests
5. Himalayan Forests

TROPICAL EVERGREEN FORESTS

These forests are found in the areas of the Western Ghats, the North-eastern States of Himalayas and Andaman and Nicobar Islands which receive more than 200 cm rainfall.

Ebony, Mahogany, Bamboo, Rubber, Rose Wood and Sandalwood are the important trees grown here.

Tiger, Rhinoceros, Bears, Leopards, Pythons and Swamp deer are found here.



TROPICAL DECIDUOUS FORESTS (MONSOON FORESTS)

Peninsular India and the Northern parts of India are covered by monsoon forests. These areas receive 100 cm rainfall.

Teak, Sandalwood, Sal, Deodar, Bamboo and Ebony are some of the important trees grown here. These trees shed / drop their leaves during summer because of less rainfall. These forests are called deciduous forests.

These types of wood are used for making furniture.



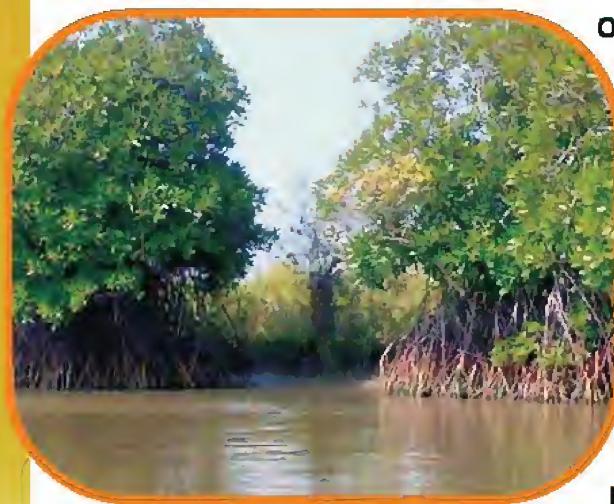
Do you know?

Very little wild life can be found here as the forests are not dense.

MANGROVE FORESTS

Mangrove forests are seen in the Indian coastal line, in the Ganga delta and Brahmaputra region, in some backwater areas and salt marshes.

The roots of the trees of most forests are found usually under the ground. But salt water trees have aerial roots which are above the water in order to survive in the salt water. These prevent soil erosion and prevent fertile soil from being washed away into the ocean.



Vedaranyam and Pichavaram areas in TamilNadu have mangrove forests.

Pichavaram forests protected many people from Tsunami waves in 2004.

Do you know?

Deltas are formed when sand mounds are formed by wind and waves.

THORN FORESTS

Thorn forests are found in the areas which receive less than 50 cm rainfall.

Parts of Deccan Plateau, South Punjab and Thar Desert have thorny trees like acacia, babul and palmyra.



HIMALAYAN FORESTS

The Himalayan Forest types are varied according to the height of the slopes.

The leaves of the trees found here are conical in shape so we call these coniferous forests.

The lower Himalayas have evergreen forests. The Middle Himalayas have temperate forest trees like Pine, Birch, Cedar, Oak, Chestnut, Walnut and Apple.

You can see some of these trees in Ooty, Upper Nilgiris and Kodi Hills.

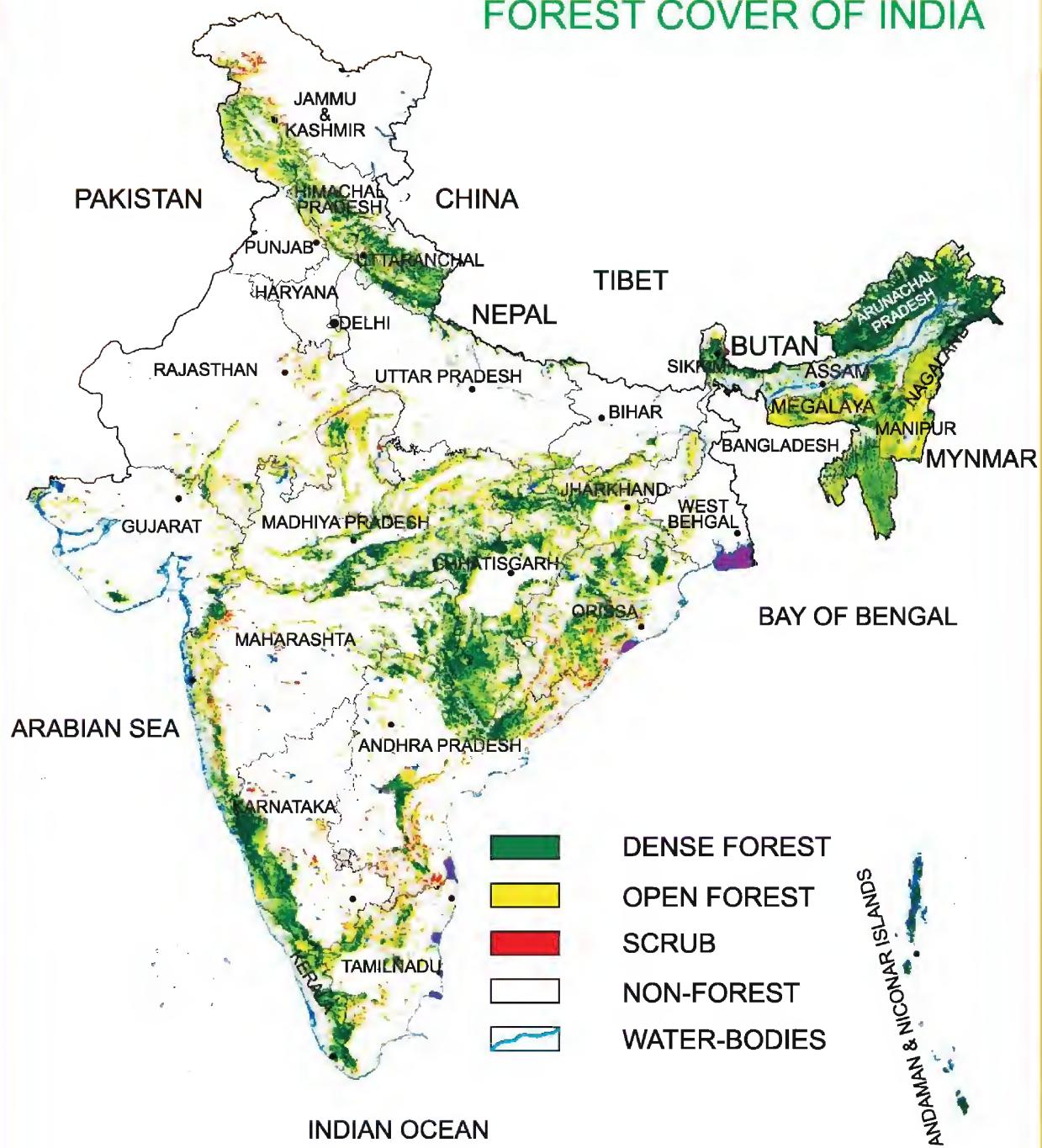


Activity

The next time you visit these areas, observe them and get more information from your teachers.

Compare the trees of other forests with respect to size, shape and structure of the leaves etc.

FOREST COVER OF INDIA



Think: How can we increase the forest cover in India?

THE USES OF FORESTS

- ★ Forests provide oxygen for living things.
- ★ Forests provide timber / wood for various types of construction work from house to ship building.
- ★ Forests give us firewood, fruits, nuts and medicinal leaves (herbs).
- ★ Forests have their own value; forests bring rainfall, control soil erosion and purify the air by providing Oxygen and Nitrogen cycles.
- ★ Forests give revenue to the Government and employment opportunities to people
- ★ Forests provide shelter for wild animals like Lion, Tiger, Elephant, Bison, Deer and hundreds of birds and wild creatures.
- ★ The dry leaves combine with the soil and change into manure thus adding fertility to the soil.
- ★ Forests are used to produce paper, gum, resin, olive oil and natural dyes.

But children

Nowadays the benefits have declined considerably... Do you know why?

This is because of all our activities. The growing population has reduced the forests to less than 17 % of our country's total area.

Remember, a country should have more than 33% of area under forest cover to get the maximum benefits from forests and for remarkable economic development.

Man has cleared the forests for human settlements, industrial purposes, construction of roads, railways and dams. Clearing of forests is called **deforestation**.

Other than this, valuable trees are illegally cut down and animals are hunted by poachers.

In this way we have lost a lot of our forest wealth.

Results of that

- ★ We receive unseasonal, irregular rainfall.
- ★ The earth's temperature is gradually increasing "Man cannot tolerate the Earth's temperature after 300 years" say US Climate Agencies 2010.
- ★ We have lost our rare variety of plants and animals which are our country's rich heritage.
- ★ Our National animal Tiger is facing the danger of extinction.

Do you know?

Over half the world's wild tigers live in India, Nepal and Bangladesh.

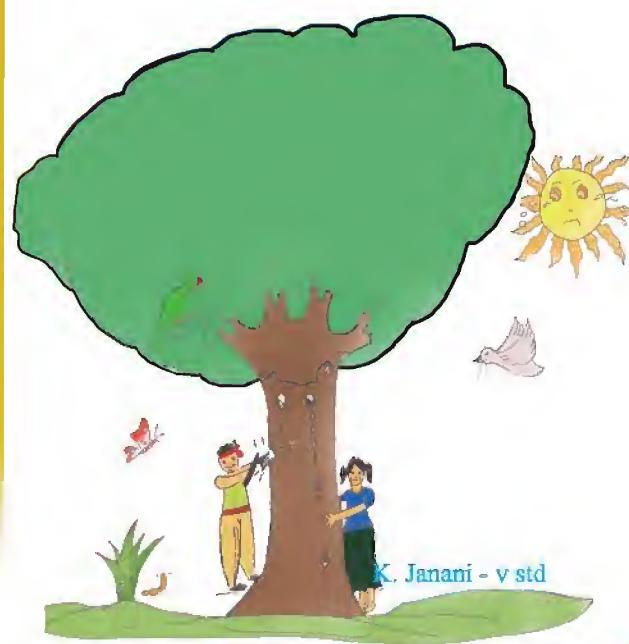
- ★ To protect some endangered animals there are some sanctuaries.
- ★ Gir forest in Gujarat for lions.
- ★ Mudumalai forest in TamilNadu for elephants.
- ★ Kaziranga in Assam for the rhinoceros.

"Grow more trees Save the Earth"

CHIPKO Movement

CHIPKO movement for the protection of trees began in Chamoli a place in Uttarakhand .The people here are very keen that trees should not be cut. If all Indians have a similar aim the future generations will benefit.

Song of a tree



I am a tree , a tree ,
A useful thing am I ;
I give you oxygen free
And the air I purify.

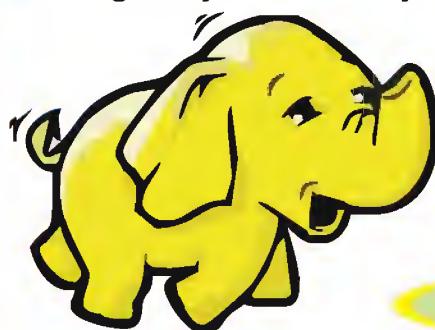
My leaves, flowers and fruits
Give shade, give food, as you can see
The soil is held tight by my roots
Animals and birds find homes in me.

I give wood, I bring rain
I protect weather naturally;
Please don't give me pain!
Don't cut me! Don't cut me!

Sudha Vyas

Interesting Facts

- ★ 19.39% of the total area of India is covered by forests.
- ★ 90% of the land of Andaman and Nicobar Islands is covered by forests.
- ★ Assam is the largest producer of Tea in the world.
- ★ Uttar Pradesh is the largest producer of Sugarcane in India.
- ★ The major hill stations of India namely Nainital, Missourie, Almoda and Ranikhet are in Uttar Pradesh.
- ★ Kodaikanal and Ooty are the summer hill resorts of Tamil Nadu.
- ★ The Indian state of Kerala accounts for 90% of the rubber production in the country.
- ★ Sikkim exports medicinal herbs.
- ★ Punjab stands first in the cultivation of wheat.
- ★ Manipur has a valley filled with flowers.
- ★ Meghalaya is the only state with a museum of butterflies.



Exercises

I. State whether each of the statements is true or false

1. Natural vegetation is uniform.
2. Evergreen forests have trees that shed their leaves.
3. Thorn forests are found in desert areas.
4. Mangrove forests have trees with aerial roots.
5. Forests bring rainfall.

II. Mention any two crops or trees that grow in these forests

1. Tropical evergreen forests
2. Monsoon forests

III. Match the following

1. Vedaranyam	-	a) Deciduous forests
2. Andaman	-	b) Coniferous forests
3. Peninsular India	-	c) Thorn forests
4. Middle Himalayas	-	d) Mangrove forests
5. Thar	-	e) Evergreen forests

IV. Write a note on conservation of forests and wild life.

Project

I. Let us grow more trees-Save Nature

Name of student : _____

Class

Date of Birth :

Name of the parents : _____

Address

Phone number: _____ **Mobile number:** _____

Sir/Madam,

Subject:-Tree plantation

My son/daughter will plant a tree (type of tree)

on _____ at (place) as a part of the project

“Conservation of trees”.

Signature of parent

Date:

Place:



7

TREASURES UNDER THE GROUND

Among the following things pick out those we use for purposes like cooking, travelling and making ornaments.

petroleum	gold	cotton	wool
coal	copper	aluminium	leather



We call products like petroleum, coal, copper and gold minerals.

Minerals are products that are found in rocks and under the ground. The mining industries are responsible for obtaining minerals. A mine is an excavation in the earth from which ores of minerals can be extracted. Due to the minerals many industries are established which contribute to the development of a country.

India is rich in mineral wealth. Minerals are of two kinds namely Metallic and Non-metallic. Iron, manganese, bauxite, copper and gold are the important metallic minerals while petroleum and coal are the important non-metallic ones. Most of these minerals are found in the Deccan Plateau and Chota Nagpur Plateau of India.

Do you know?

Iron

The study of minerals is called Mineralogy

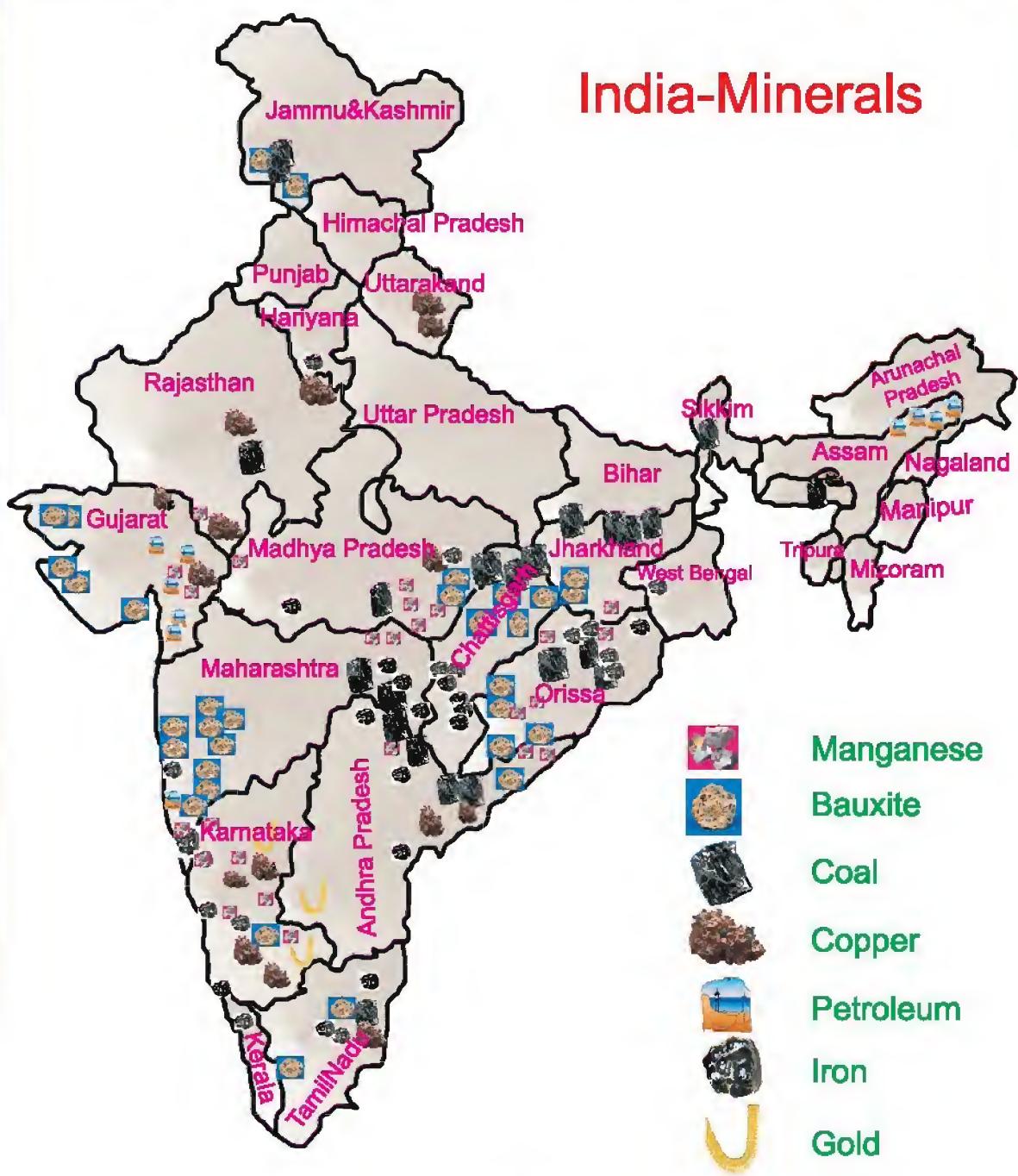
Iron is called the key mineral. Industries are mainly dependent on it. The best variety of iron ore is found in India in the states of Bihar, Orissa and Karnataka. Iron is also found in Jharkhand, West Bengal, Madhya Pradesh, Tamil Nadu and Maharashtra.



USES OF IRON (eg.)



India-Minerals



One fourth of all the iron ore in the world is found in India. Iron is useful to us in many ways. We make different vehicles and machines using iron. It is also used in buildings and bridges.

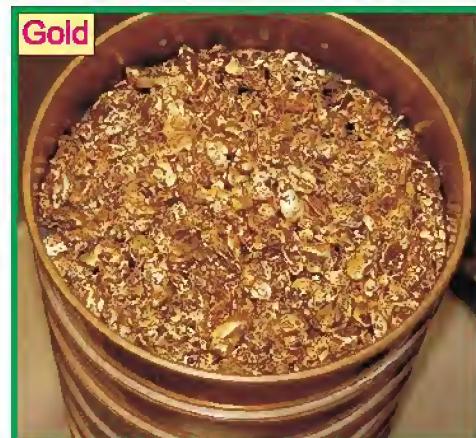
Iron is one of the major exports of India. Through the ports of Paradweep in Orissa and Vishakapatnam in Andhra Pradesh it is exported to different foreign countries.

EXPORT AND IMPORT

When we send products from our country to other countries we export. When we bring products from other countries to our country we import.

More export and less import will contribute to the progress of our country.

GOLD



Gold enjoys great popularity in India. Indians love gold ornaments and objects made of gold. The gold industry is booming in India .It is even importing gold.

Gold was primarily found in the mines of Kolar in Karnataka and a few places in Andhra Pradesh.

MANGANESE

Manganese is found in abundance in India. This is used in making iron products and in the glass industry.

Manganese is largely found in Orissa. It can also be found in Madhya Pradesh, Andhra Pradesh, Goa and Karnataka.



Manganese

BAUXITE



Bauxite is an **ore** of aluminium. Aluminium is **light** in nature. It is used in making vessels, electrical wires, automobiles, machines and aircraft.

It is found in the following states: Tamil Nadu, Orissa, Madhya Pradesh, Bihar and Andhra Pradesh.

COPPER

Copper was the **first metal** to be used by **human beings**.

It is widely used in **electrical equipments**. Copper is mined in Uttarakhand, Jharkhand, Madhya Pradesh and Rajasthan.



COAL

Coal is one of the **most important** minerals found underground.

Coal is primarily used as **fuel**. Asia accounts for **one-third** of the extent of coal found in the world. Railway engines, iron factories, industries and houses use coal as fuel for industrial use and cooking.



Coal is largely found in Madhya Pradesh, Bihar, West Bengal, Orissa, Tamil Nadu and Andhra Pradesh. Neyveli in Tamil Nadu has a number of coal mines.

PETROLEUM

Petroleum is a **natural resource**. It is believed that petroleum was formed over millions of years from many landforms and creatures buried underground.



The **by products** of petroleum are **petrol, diesel, and kerosene** all of which are used for generating energy and as fuel. Petroleum gel or paraffin is also another by product.

Petroleum is found in large quantities in Digboi in Assam and Ankleswar in Gujarat. It is also found in the offshore station of Mumbai under the sea.

Petroleum is purified in Mumbai, Chennai and Cochin and many by products are derived from it.

These two underground **Non-Metallic Minerals, Coal and Petroleum** play a **vital** role in the industrial development of India.

CONSERVING OUR MINERALS



Our minerals are being consumed so rapidly that there is a danger of their running out. We must learn to save them by using them wisely.

Alternate sources of energy and fuel are being considered, chief among them being **solar and wind energy**. This aims at conserving the available mineral resources from being rapidly depleted.

Points to remember

- * Minerals are found in rocks and underground.
- * Through mines these minerals are obtained.
- * Iron, copper and gold are the most used minerals in India.
- * Coal and petroleum are non-metallic minerals.
- * Conserve the minerals and use them wisely.

Some interesting facts:-

- ★ Karnataka is the only state where mercury is found.
- ★ Bihar is the only state in India where pyrite is found.
- ★ Platinum has been discovered in Namakkal District recently.
- ★ Some years ago, dentists used gold to fill cavities in teeth.
- ★ Gypsum is found in the state of Himachal Pradesh in India.

Exercises

I. Do you agree?

1. Gold was found in Karnataka.
2. Half of the Coal in the world is found in Asia
3. Copper is found in Rajasthan
4. Aluminum is heavy
5. Solar energy is a natural resource

II. Answer the following questions

1. What are minerals?
2. Name the major minerals found in India
3. How was petroleum formed?
4. What is the state of minerals in the world today?
5. What are the alternate sources of energy?

III. Activity

1. Find out if there are any minerals found in your area. Tell your friends about them.
2. Form two groups and find out what minerals are used at home and in your school and for what purposes.
3. Write a small report of your findings and read it out.

Project

1. Bring samples of some minerals. Display them on a table. Label them and appoint students to speak about each of the minerals.
2. Make a model of a plane or engine or car using some of the minerals and cardboard.



8

BEYOND FRONTIERS

SPACE

Space has roused human curiosity for generations. What is space? The atmosphere surrounds the earth for a distance of 1600kms. Beyond this is the limitless space. It is an extension of the sky. The solar system is part of this space. Ancient Indian scientists and astronomers like Aryabhatta and Bhaskara have given a lot of facts about space and the heavenly bodies through their intense studies and research. Research about space continues even today.

ARTIFICIAL SATELLITES

Space scientists have created artificial satellites to study space. Satellites are **machines** specially made by **scientists**. These satellites are sent into space by means of rockets. Space stations are set up in space to conduct research.

Russia and U.S.A have competed with each other in sending satellites into space. On Oct 4-1957 Russia sent **Sputnik -1**. This was the first space satellite. In the same year in November Russia sent a dog **Laika** in **Sputnik 2**, another satellite. After this, America sent its own satellite "**Explorer**" to space.



Do you know?

From the year 1975 to July 2010, India has sent 56 satellites into space.

INDIAN SATELLITES

On 19th April 1974, India sent its first satellite Aryabhatta into space followed by Bhaskara 1, Rohini, Apple, Insat-1A, Insat-1B, PSLV C-etc.

In October 2008 India sent **Chandrayaan-I**, an unmanned satellite to the moon. It was intended to study the lunar surface in detail.

Recently in July 2010 through the satellite **PSLV C-15**, five smaller satellites have been launched for space research.



For your information

PSLV-C15 was launched from Satish Dhawan space centre in Sriharikota. Images taken by its camera can be used for planning roads in villages, building harbours, preparing accurate maps etc.

THE FIRST MAN IN SPACE

Russia realized its dream of being the first to send a man into space. On April 12th, 1961, **Yuri Gagarin**, a Russian cosmonaut, became the first human to travel into space in **Vostok I**. After his return, he became an instant celebrity.



Do you know?

Astronauts - Name given to space travellers by America.

Cosmonauts - Name given to space travellers by Russia.

Neil Armstrong



THE FIRST MAN ON THE MOON

America was not far behind in space travel. In July, 1969, **Neil Armstrong** of America was the first to set foot on the moon. The second man was **Edwin Aldrin** who went along with him in the spaceship **Apollo XI**. They brought back samples of rock and soil from the lunar surface.

Armstrong spoke the famous words, "One small step for man, and one giant leap for mankind". Aldrin and Armstrong said that they had come from the planet earth in a spirit of friendship and peace. They signed under these words on a plate and left it on the moon.



Edwin Aldrin

SPECIAL TRAINING GIVEN TO SPACE TRAVELLERS

1. To swim in the deep water of the ocean.
2. To wear a space suit and play Tennis in water.
3. To stay in a room with low atmospheric pressure for hours together and rectify the defects of the machines.
4. To stay in a place with less gravitational force for certain hours.
5. To operate all the machines connected with a space vehicle.

THE SPACE SUIT

Astronauts need to wear a special dress known as the space suit while going into space. This protects them from breathlessness as there is no air in space. This saves the body from excessive cold. This suit is also designed to provide enough **oxygen** to breathe and it helps to keep up the blood pressure of the body. Without this suit, space travel is impossible.



SPACE STATION

16 Nations of the world set up an international space station in space to conduct thorough research and gather information. Astronauts from different countries spend time there and send useful information to the earth.



INDIAN ASTRONAUTS



On 2nd April 1984 India sent **Rakesh Sharma** into space in Soyuz T-11 a spacecraft. He became the first Indian space traveller. He spent 8 days in space aboard the Salyut 7 space station in order to do research.

India ranks 7th in sending satellites into space.

Apart from Rakesh Sharma two women of Indian origin namely **Kalpana Chawla** and **Sunita Williams** went into space to do research.

Do you know?

Valentina Tereshkova was the first woman to go into space.

KALPANA CHAWLA

Kalpana Chawla of Indian origin went to space in the space ship **Columbia** in the year 1997. In her first mission she was mission specialist and prime robotic arm operator on space shuttle STS 87. In her second mission she was one of the seven members of the crew of STS-107 as mission specialist. This mission from 16th January 2003 to 1st February 2003 lasted 15days, 22hours and 21 minutes in space. The crew conducted nearly 80 experiments related to microgravity, earth and space science, advanced technological development and astronaut's health and safety. Unfortunately while returning, the space craft exploded in space. All the astronauts on board were killed.



SUNITHA WILLIAMS

Sunitha Williams was born on September 19th 1965 in Cleveland in the district of Ohio in USA. Her father is Doctor Deepak Pandya of Indian Origin.



EDUCATION

Sunitha was full of grit and determination from childhood itself. After her graduation in 1987, she joined the navy and rode helicopters. She has the experience of 2770 flying hours in 30 different types of aircraft.

AMBITION TO BECOME AN ASTRONAUT

She dreamt of flying into space as she rode helicopters. In order to qualify herself for this, she did higher studies in engineering in the Institute of Technology in Florida. She was selected in 1998 as an **Astronaut**.

SPACE TRAVEL

On December 9, 2006 she was launched to the international space station with STS-116 aboard the shuttle **Discovery**. She spent 6 months there.



She installed a new instrument in the space station to get electricity from solar rays. She completed **3 space walks** in 9 days.

INTERESTING EXPERIENCES IN SPACE.

In space, eating and drinking should be done with utmost care. Once when Sunitha Williams started taking almonds, all slipped away from her hand and began to float in the craft. She had to swim inside to pick them up one by one.

Another interesting experience was when she wanted to mix sauce in her food. As she opened the packet, the sauce came out with force and floated here and there. She tried to catch it. Then she found the lid and closed the packet with great difficulty.

ACHIEVEMENTS IN SPACE

Doctor Catherine held the record of the longest stay in space. Sunitha Williams broke this record by staying 195 days in space. This became the longest stay by any person in space.

NASA is planning another trip to space in **Soyuz 31**, in June 2012. Sunitha Williams is expected to be a part of that team. She stands 24th in the list of astronauts who have achieved heights in space travel.



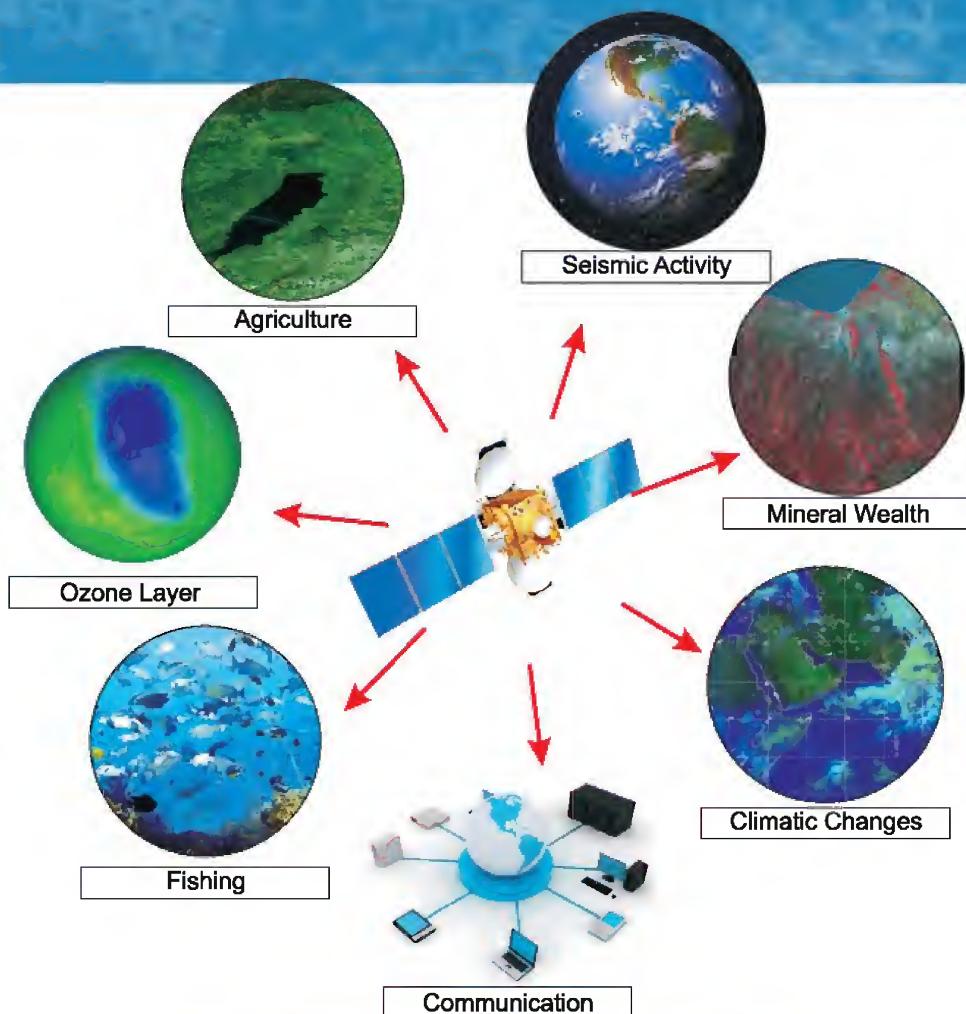
Recent News : A group of scientists under the leadership of astro-scientist Crowther Paul of London Sheffield university have discovered a star 320 times bigger and brighter than the sun. They have named it the "Monster star". This is 265 times heavier than the sun.

USES OF SATELLITES

Satellites are useful to mankind in many ways.

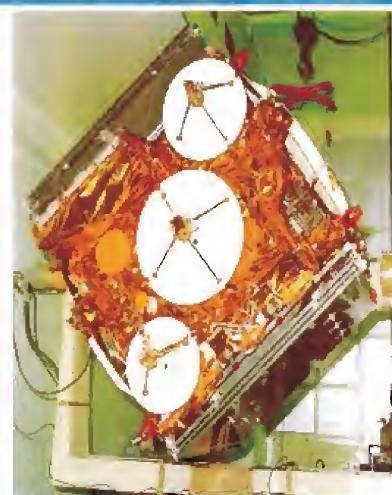
1. They have contributed significantly towards understanding the earth based activities.
2. They help us to understand about the ozone layer.
3. They help us to discover the archeological sites or geological formations which were impossible to identify otherwise.
4. They connect people of all countries through effective communication.
5. They help us to understand climatic changes.

Space will continue to fascinate people. Everyday newer and newer information continues to emerge. A day might come when space tourism will become possible.



Some interesting facts.

1. The youngest person to fly in space is Gherman Titov. He was 25 years old when he flew Vostok 2.
2. The oldest person to fly in space was John Glenn. He was 77 years old when he flew on STS – 95.
3. SHAR stands for Sriharikota. It is the launching centre for all Indian satellites.
4. Dr. Vikram Sarabhai is considered as the father of Indian Space Programme.
5. The main factor in space travel is the gravity change experienced by the body.
6. To do any work in space, Astronauts have to move only the body parts like hands and legs and not the entire body.
7. The famous motto of Kalpana Chawla was “Follow your dreams”.
8. Chandrayaan's most important discovery was the presence of water molecules in lunar soil.



INSAT-2C in preparatory stage
(1995-1996)



The first Indian Satellite
to the moon



Chandrayaan - 1



Fixing the Satellite



Rocket carrying the Satellite



Satellite launch



Indian Missiles



Artificial Satellite around the earth

Expansions:

1. INSAT	-	Indian National Satellite System
2. EDUSAT	-	Educational Satellite
3. PSLV	-	Polar Satellite Launch Vehicle
4. GSLV	-	Geo –synchronous Satellite Launch Vehicle
5. ISRO	-	Indian Space Research Organization.
6. NASA	-	National Aeronautics and Space Administration

Exercises

I. Choose the correct answer:-

1. The number of planets in the Solar system is
a. 7 b. 9 c. 8
2. The first country to send a satellite into space was
a. America b. Russia c. India
3. The first satellite in space was
a. Sputnik I b. Explorer c. Bhaskara
4. The space ship in which Sunitha Williams went was
a. Discovery b. Apollo c. Explorer
5. The number of days spent by Sunitha Williams in space was
a. 200 b. 195 c. 190

II. Answer in a word:-

1. First animal in space-----
2. First man in space-----
3. First man to set foot on the Moon-----.
4. The first satellite launched by India-----.
5. Name of India's satellite to the Moon-----.

III. Fill in the blanks:-

1. Y—r—G—g—r—n
2. Sr—ha— —k—t—
3. A—y—b— a—ta
4. A—dr— —
5. R—h—n—

IV. Write briefly

1. Experience of Sunitha Williams in space.
2. The Space Suit.
3. Any 2 uses of satellites

Activity

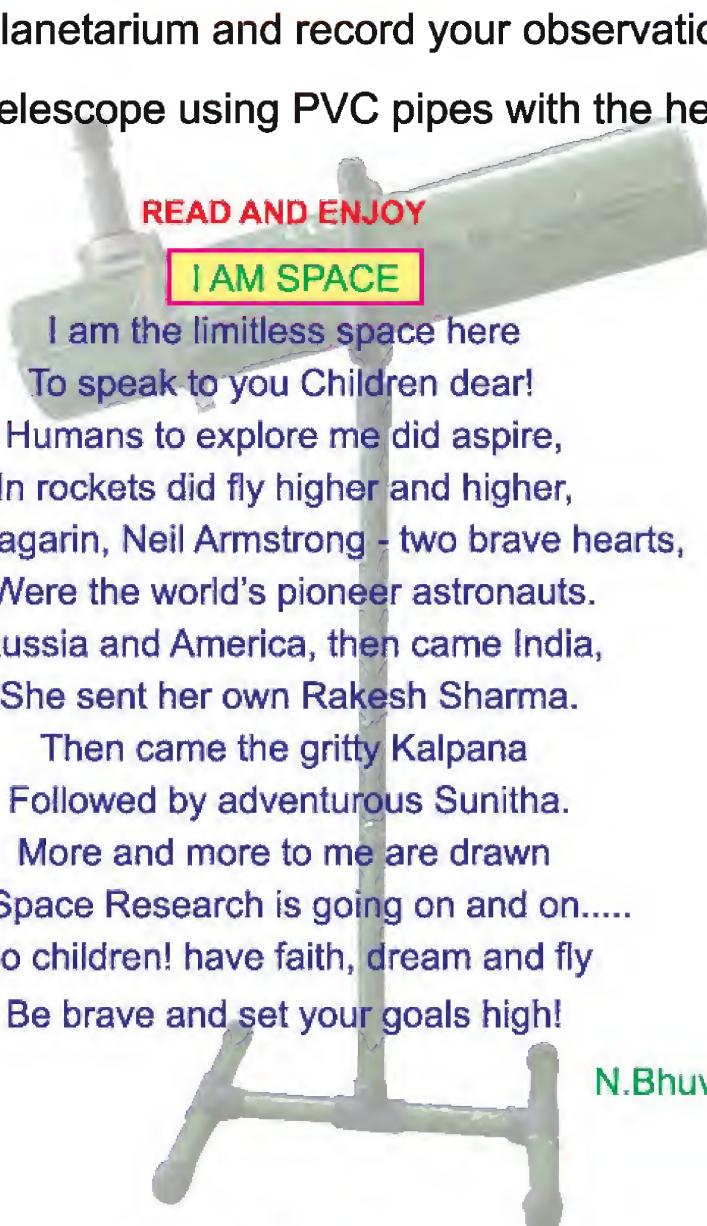
Discuss with your teacher about the changes that take place during Space Travel.

Project

- Visit the Birla Planetarium and record your observations.
- Try to make a telescope using PVC pipes with the help of your teacher.

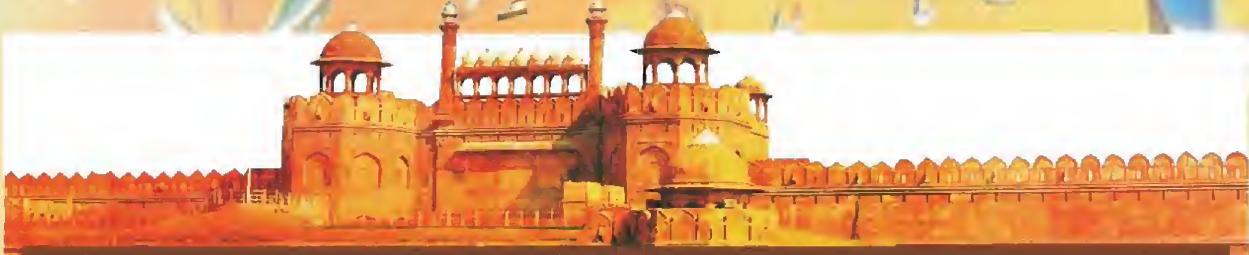
READ AND ENJOY

I AM SPACE



I am the limitless space here
To speak to you Children dear!
Humans to explore me did aspire,
In rockets did fly higher and higher,
Yuri Gagarin, Neil Armstrong - two brave hearts,
Were the world's pioneer astronauts.
Russia and America, then came India,
She sent her own Rakesh Sharma.
Then came the gritty Kalpana
Followed by adventurous Sunitha.
More and more to me are drawn
Space Research is going on and on.....
So children! have faith, dream and fly
Be brave and set your goals high!

N.Bhuvaneswari



9

OUR GOVERNMENT

Elango's family is visiting Delhi. His parents, Elango and Minnal, his sister see the **Parliament House of India**, in New Delhi, They see the Rashtrapathi Bhavan too, which is the residence of the Indian President. Both Minnal and Elango have a lot of questions about the President, the Prime Minister and other ministers governing our nation. His mother, Mangai who is a government employee in the Secretariat, Chennai, responds to their curious queries by explaining about the government-State Government, Central Government and Union Territories etc.

We live in groups because many conveniences like roads, water, electricity, transport, schools and hospitals can serve all of us. It is cheaper and more efficient when we share such facilities. But at the same time, we need rules on how to live in groups. We select some people among us to write these rules and ensure that all of us follow these rules.

Those we select to do these tasks form a government. Government makes common rules into laws. All of us need to follow the laws laid down by the government. The government is the agency which enforces these common rules or laws upon society.



Government functions at different levels. Just as in your school you have classrooms and then primary school, middle school and high school sections, we have different levels of government. Chennai for example is a city. It has a form of government called "**Municipal Corporation**". Villages have a local government called **panchayat**.

Chennai is in a larger piece of land called Tamil Nadu, just as your class is part of the primary section of your school. Larger areas like Tamil Nadu are called states. We who live in this area elect members of the government. This government is called the **state government**.

Tamil Nadu is part of a larger land and society called India, just as primary section of your school is part of the whole school. There are 28 such states. All these states together form the Indian Union and we have a **Union or Central Government**.

Democracy is the government of the people, by the people and for the people.



Democratic country



India follows a **democratic** form of governance. In a democratic country, people elect their representatives or leaders through elections. Citizens of 18 years and above can cast their vote in the elections. These **elected leaders** form the government. The majority of our population lies in the villages and the rest live in towns and cities. It is not possible for the central government to see to the needs of the people living in many states. So in India, we have the following three levels of government.

- ★ The Central Government or Union Government
- ★ State Governments
- ★ Local Self Governments.

DO YOU KNOW ?

The Constitution has laid down some directions for the government to follow. These are called Directive Principles .They help the government to function better, for the welfare of the people.

Important subjects like foreign affairs, defence and finance are with the central government .During any crisis the central government comes to the rescue of the state government.

THE CENTRAL GOVERNMENT

This consists of the President, Vice-president and a Council of Ministers headed by the Prime Minister. The Parliament is the law making body. It consists of the President and the two houses namely- **Lok Sabha** and **Rajya Sabha**.



THE LOK SABHA OR THE LOWER HOUSE

It consists of 545 members. Its members are elected directly by the people. So this is also called **House of the People**.This is the primary source of political power in the country. The members of Lok Sabha are elected for a term of 5 years. Any Indian who is 25 years of age can stand for elections to the Lok Sabha.

The country is divided into many constituencies. The candidate who gets the highest number of votes in a constituency is declared as a member. The Lok Sabha can have a maximum of 552 members.

Lok Sabha elects one of its own members as its **Presiding Officer** and he is called the **Speaker**. He is assisted by the Deputy Speaker , who is also elected by Lok Sabha. The conduct of business in Lok Sabha is the responsibility of the speaker.

DO YOU KNOW ?

***The first Lok Sabha was formed in 1952, after General Elections
Ms.Meira Kumar is the first woman speaker of Lok Sabha.***

THE RAJYA SABHA OR THE UPPER HOUSE

Its members are elected by Members of State Legislative Assemblies. There can be a maximum of 250 members.-238 elected members 12 members are nominated by the President of India. They are elected for a term of 6 years. One third of its members retire every 2 years. New members replace them. The Vice-President is the **Chairman** of the **Rajya Sabha**.



DO YOU KNOW ?

Rajya Sabha is a permanent body. It cannot be dissolved. The Lok Sabha however can be dissolved by the President.

THE PRESIDENT (FIRST CITIZEN OF THE COUNTRY)

The members of the two houses are called Members of Parliament or MPs. The members of the Parliament and the State Legislative Assemblies elect the President of India. The President of India is the Head of the country. He resides at the **Rashtrapati Bhavan**. The President is elected for a term of 5 years.

DO YOU KNOW ?

Mrs. Pratibha Patil is the first woman President of India.

HOW IS GOVERNMENT FORMED?

The most important feature of our democracy is the multi-party system. Different parties put up their candidates for election. The party that gets the maximum number of votes forms the government.

The party that forms the government then elects its leader. The President appoints him as the Prime Minister and on his advice the other ministers. But the Prime Minister is the more powerful and effective head of the government. The Prime Minister chooses ministers for different portfolios like foreign affairs, agriculture, defence etc. They are appointed by the president and together they form the council of ministers or Union Cabinet. The ministers in the Union Cabinet can be either from the Lok Sabha or Rajya Sabha.

STATE GOVERNMENT

Government at the state level is called State Government. Every state has the Legislative Assembly. The representatives who win the elections are called Members of Legislative Assembly (M L As) They are elected by the people who are more than 18 years of age. They are elected for a term of 5 years.

The President appoints the Governor of the state, who is the head of the state. The Governor appoints the leader of the majority party as Chief Minister. The Chief Minister forms his council of ministers.

UNION TERRITORIES

A Union Territory is an administrative division of India. Unlike states, which have their own governments, **Union Territories** are directly ruled by the **Central Government**.

During the British rule, some of our regions were either directly ruled by the British or as Princely States by the local rajas. After 1956, these colonies especially French and Portuguese colonies in India were incorporated into the Republic as Union Territories..

S.No	Union Territories	Capitals
1.	Andaman and Nicobar Islands	Port Blair
2.	Chandigarh	Chandigarh
3.	Dadra & Nagar Haveli	Silvassa
4.	Daman & Diu	Daman
5.	Lakshadweep	Kavaratti
6.	Puducherry (Pondicherry)	Puducherry
7.	National Capital Territory of Delhi	New Delhi

Activity

Have a role play of Central Government and ministers and State Government and ministers in the class with the help of your teacher to discuss an urgent problem to be solved at once.

JUDICIARY

In India, our constitution has provided an independent judiciary. The Supreme Court in New Delhi is the highest judicial body. Its decision is final in any legal case. The Chief Justice of Supreme Court is appointed by the President on the advice of the Prime Minister.

Supreme Court



The highest court in the State is the High Court. There are District Courts at the district level.

You will come to know more about the Judiciary in the higher classes.

Find Out

The name of the present Chief Justice of India.

INDIA AND HER NEIGHBOURING COUNTRIES

India as a sub-continent is surrounded by some countries which are known as neighbouring countries. Indian neighbouring countries are as colourful as India herself. India's neighbours are : Pakistan, Bhutan, Nepal, Sri Lanka, China, Bangladesh, Afghanistan.

The SAARC

The South Asian Association for Regional Co-operation is an economic and political organization of eight countries in Southern Asia. They are India, Nepal, Bhutan, Bangladesh, Sri Lanka, Maldives, Pakistan and Afghanistan. SAARC was established and its charter was adopted on December 8th 1985. It also encourages co-operation in agriculture, health, population control, rural development and science and technology.



MYANMAR

Myanmar, formerly known as Burma, is taking some constructive steps towards becoming a member of the SAARC family.

Add to your memory

Majority party-The political party that gets the maximum number of votes in the election.

Points to retain

- ✿ India follows a democratic form of governance, where any citizen who is 18 years of age and above can cast his/her vote.
- ✿ The Parliament is the law making body. It consists of the President and the Two Houses- Lok Sabha and Rajya Sabha
- ✿ The President is the first citizen of our country
- ✿ Members of the two houses are the Members of Parliament.
- ✿ The Prime Minister chooses various ministers in the cabinet for different portfolios.
- ✿ The Governor is the head of the state and he appoints the Chief Minister of the state.
- ✿ The Supreme Court in New Delhi is the highest judicial body in the country.

Interesting Facts

- ✿ The national emblem of India is an adaptation from the Sarnath lion.
- ✿ The design of the Indian National Flag was adopted by the constituent assembly of India on 22nd July 1947.
- ✿ The new rupee symbol is ₹. It was created by Udaya Kumar.
- ✿ Satyameva Jayathe means “Truth Alone Triumphs”.
- ✿ Our National Anthem “Jana Gana Mana” should be sung within 52 seconds.
- ✿ Sri Aurobindo translated “Vande Mataram”, our National song into English.
- ✿ Population wise India stands second in the world.

Exercise

I. Answer in two or three sentences:

1. How is the President of India elected?
2. How are the members of the Lok Sabha elected?

II. Answer briefly:

1. Write in brief about SAARC.
2. Write about the relationship of India with her neighbouring countries.

III. Find the odd man out:

1. a) Supreme Court	b) High Court	c) Legislative Assembly
2. a) Puducherry	b) Goa	c) Uttar Pradesh
3. a) Union Government	b) State Government	c) Chief Justice
4. a) Nepal	b) Bhutan	c) Canada
5. a) Floods	b) power cut	c) earthquake

IV. Complete the pairs:

1. Lok Sabha = Lower House; Rajya Sabha = -----
2. President = Central Government; Governor = -----
3. Lakshadweep = Kavaratti; Andaman = -----
4. Myanmar = Burma; Ceylon = -----
5. Member of Legislative Assembly = MLA; Member of Parliament = -----

V. Match the following

1. Mrs. Pratibha Patil		Highest Judicial Body
2. Mrs. Meira Kumar		Permanent House
3. Rajya Sabha		First Woman President of India
4. Lok Sabha		First Woman Speaker of Lok Sabha
5. Supreme Court		House of the People

VI. Guess who I am:

I am one of the beautiful buildings of INDIA

I am at NEW DELHI, where leaders meet to discuss the matters related to the growth of our country.

VII. Among the Presidents of India who has inspired you very much and why?

Fun to do

Find out the hidden words related to government in the word grid given below.

GRID

C	Q	P	C	H	I	E	F	M	I	N	I	S	T	E	R
O	I	S	U	P	R	E	M	E	C	O	U	R	T	E	A
U	R	P	R	E	S	I	D	E	N	T	V	E	N	R	J
N	S	T	U	H	I	G	H	C	O	U	R	T	O	S	Y
C	P	A	R	L	I	A	M	E	N	T	R	I	A	P	A
I	V	X	E	L	E	C	T	I	O	N	M	O	N	E	S
L	T	R	G	O	V	E	R	N	O	R	T	H	M	A	A
P	R	I	M	E	M	I	N	I	S	T	E	R	M	K	B
Q	S	O	V	L	O	K	S	A	B	H	A	R	Q	E	H
A	S	S	E	M	B	L	Y	B	V	O	T	E	P	R	A

Project

Conduct an election in your class for Class Leader and 2 Assistant Leader.

Hints:-

1. Symbol
2. Candidates
3. Campaign
4. Booth
5. Ballot paper
6. Marker
7. Election Officers
8. Booth agents
9. Counting
10. Announcing results.



10

RURAL GOVERNING BODIES

Fatima : Dad, how beautiful these fields look!

Sulaiman : Yes my dear. You can't see greenery like this anywhere else.

Fatima : See here, all the children are studying with great interest!!

Sulaiman : SSA has taken a lot of steps to make this possible.

DO YOU KNOW?

SSA – Sarva Shiksha Abhiyan is the project of the Central and State Governments to ensure Education For All children aged between 6 and 14.

Fatima : It's wonderful .I am happy to see farmers using tractors in the field and children learning.

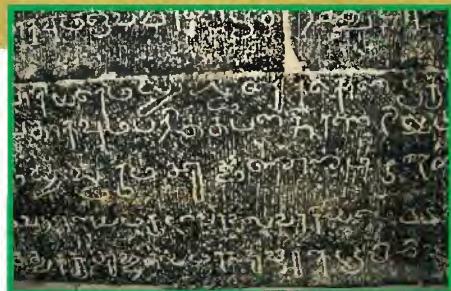
Sulaiman : I'll explain to you about the people who are involved in this process and also about the local self government.

The Government of our country is doing its best to provide for the welfare and development of the people. **People** are the most important **resource** of a country. Utilization of this human resource in an effective manner will result in the prosperity of the nation.

India is a democratic country. Majority of the people live in villages. The people are very important at the local level. To improve the basic **amenities** like Education, Drinking water, Health care and Sanitation in the villages, we have local self- government. This is run by the local people.

DO YOU KNOW?

The stone inscriptions of Uttaramerur, in Kanchipuram District show evidence of the existence of local self government during the Chola period itself.



IMPORTANCE OF LOCAL SELF-GOVERNMENT

1. The villagers know the existing problems in their villages. They also know how to solve them through discussions.
2. They participate in the development programme actively since whatever they do will result in the improvement of their living conditions in the villages.

People are empowered to tackle natural calamities like drought, floods and earthquakes.

Do you know

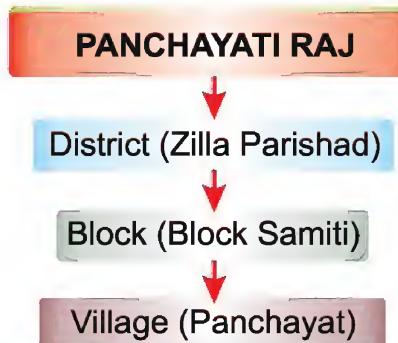
Before Panchayati Raj, most Indian villages had their own Panchayat - elderly men in the village formed a group to resolve disputes, take up common work like shoring up a river or canal bank and organise village festivals. Women were not represented in these traditional panchayats. Even today, there are traditional panchayats in villages.

Local self-governments are known as:

- ✿ Panchayat in villages
- ✿ Municipality in towns and small cities
- ✿ Municipal Corporations in big cities

THE THREE TIER SYSTEM

Districts or **Zilla Parishads** are divided into Blocks or **Block Samitis**. They are further divided into **Village Panchayats**. This **three tier system** is the **Panchayati Raj System**.





VILLAGE PANCHAYAT

We have the Panchayat system in the villages to settle problems, to improve the condition of the village or to make the people participate in the developmental programmes.

We can have Panchayat in a village where the population is more than **500 people**. Where the population is less, two villages can have one Panchayat.

The functioning of the Village Panchayat has been according to the needs of the people at different times. It holds office for five years.

The word “Panchayat” means a Committee of five people.

The members of the Panchayat in a village are elected by the people who are 18 years of age and above.

The President of the Panchayat has an important role to play in the growth and the activities of the village.

The Vice-President is also elected by the people of the village. The meetings of the Panchayat are presided over by the President and he /she is assisted by the Vice-President. In the absence of the President, the Vice-President looks after the affairs of the Panchayat.



The Secretary of the Panchayat is responsible for maintaining the accounts of the Panchayat. He/she is a permanent employee of the Panchayat.

DO YOU KNOW?

In many villages of India, the president is a woman.

Activity

Find out the name of the President of the panchayat of your village or neighbouring village.

SOURCES OF INCOME

It gets **income** from:

1. Government grants
2. Taxes on houses, shops and fairs
3. Sale of cattle
4. Sale of village properties
5. Fees from registration

DO YOU KNOW ?

According to Right to Education Act 2009, compulsory education is given to all children.

Important **functions** of the Gram Panchayat

1. Construction and maintenance of village wells, tanks, roads etc.
2. Providing education
3. Health and hygiene
4. Providing drinking water and electricity
5. Organizing fairs and festivals
6. Maintenance of village libraries
7. Maintenance of maternity centres



DO YOU KNOW ?

Polio drops are compulsory for children below the age of 5.



Activity

Collect information on the role of SSA in the development of education at the village level.

Advantages of Village Panchayat

1. Each individual participates in the developmental growth of the village.
2. People become self-reliant and independent.
3. The Village community as a whole is involved in solving the problems of the village.
4. Each person contributes to the growth of the village.

Precautions taken on special occasions in villages.

During festivals and fairs adequate arrangements are made to prevent the out break of cholera and other contagious diseases.

Children are vaccinated in schools to safeguard them.

Twice a year medical check-ups are arranged by school authorities.

Groups of doctors conduct health camps for the children.

THE IMPORTANCE OF WOMEN IN PANCHAYAT

In the panchayat elected women members should be one-third of the total number of elected members.

The participation of women in the local level leads to the welfare of the community. Elected women members contribute to the growth of villages effectively. This experience becomes more useful at the state level. States are able to deal with issues like **alcoholism, poverty, female infanticide** etc....easily.



When they get elected to the State or Central Governments, this experience at the local level helps them to bring the desired results.

MUNICIPALITIES AND MUNICIPAL CORPORATIONS

In towns and cities, Municipalities and Municipal corporations carry out the work of providing civic amenities to the people. Smaller cities which are less populated have Municipalities. Where the population is 10 lakhs and above we have Municipal Corporations (eg: in metropolitan cities like Chennai, Delhi, Mumbai).

In Tamil Nadu we have ten Corporations.

1. Chennai	6. Tiruchirappalli
2. Madurai	7. Tirupur
3. Coimbatore	8. Erode
4. Salem	9. Vellore
5. Tirunelveli	10. Tuticorin

DO YOU KNOW ?

The present system of local self government was introduced by Lord Ripon, the British Viceroy in 1882.

The Corporation Building in Chennai is called Ripon Building



You will learn about the Block Samiti, District Boards, Municipalities and Municipal Corporations in detail in the higher classes.

VILLAGE EDUCATION COMMITTEE

In our country free education is provided for the school going children at these levels. viz. primary, middle, higher and higher secondary levels. In these schools a **village education committee** is organized to help the **growth of educational activities**. The president of the village panchayat will act as the chairperson of this committee and the Headmaster/Headmistress of the schools will be the Secretary. There will be a total of 20 members in this committee.



FUNCTIONS OF VILLAGE EDUCATION COMMITTEE:

1. To enroll more children in schools.
2. To supervise that all children attend school regularly.
3. To stop child labour.
4. To improve the standard of education.
5. To celebrate school functions.
6. To improve the infrastructure of the schools.

Try to find out the VEC day (Village Education Committee) and birthday of our great leader Kamaraj.

DUTY OF THE COMMUNITY

It is the duty of the Community to support the government in solving the problem of water scarcity in towns and cities. We as individuals can contribute to this by using water carefully. As citizens of this large democratic country we should create awareness among others in this aspect. (eg: at home, at school, at the public places etc.)

SOME TIPS TO SAVE WATER

Use water sparingly while bathing, washing clothes and brushing teeth
Close the taps when you are not using water.

DO YOU KNOW:

Chennai has the oldest Municipal Corporation in India. It was set up in 1688.

Nagar Panchayats, Cantonment Boards and Port Trust are the other urban bodies.

Activity

Discuss the various methods of water conservation and the role of the people in helping the government.

PRIVATE PROPERTY AND PUBLIC PROPERTY

Things that are owned by individuals are called **private property**. Eg: house, toys, furniture etc. We take special care of them and ensure their proper maintenance.

Some things which we see in our surroundings, do not belong to any single person. They belong to all the people. Eg: local parks, local school, railways, post offices.etc. These are maintained by the government from the money we pay in the form of taxes.



PROTECTING PUBLIC PROPERTIES

There are many **public properties** like parks, schools, railways, buses, government hospitals, public libraries, etc. These are very much useful to the public and are maintained by the government for the welfare of the people. It is the **duty of every citizen** to protect them.

Our role in protecting public properties

1. We should not indulge in any kind of unruly behaviour like writing on the seats or the walls of the public transport vehicles.
2. We should protect the places of cultural heritage and religious worship.
3. We should not spit or commit nuisance in the market or public places.
4. We should not break things in the classrooms.
5. We should not pollute water, air and land.
6. We should not tear pages or damage the books in the library.
7. We should not pluck flowers from the parks.
8. We should keep public places like the beach, bus terminus, air ports, hospitals, railway stations, tanks, roads etc. clean.



Remember: Whenever we cut down a tree, we should remember to plant a sapling.



Do You Know?

Drinking polluted water causes 25 Crore cases of water related diseases and kills about 50-100 lakh people every year.

Activity

Discuss about basic health care with your friends and teachers in the class.

Inter-dependence and **unity** are important for the growth of any nation. This should start from our home, school and society.

Do You Know?

Plastic goods, aluminium cans and silver foil are a few non-degradable waste materials. They pollute the environment. Save our Earth, Say 'No' to plastic.

To sum up

- ✿ People are the most important source of a country.
- ✿ Local Self Governing Bodies are important for the welfare of the nation.
- ✿ The three tier system of Panchayati Raj are (i) District or Zilla Parishad (ii) Block Samiti and (iii) Village Panchayat .
- ✿ Participation and contribution of women at the local level results in the development of the entire community.
- ✿ Administration of urban areas is effectively done by Municipalities and Municipal Corporations.

Interesting Facts.

- ✿ Mahatma Gandhi said, “ India lives in her villages”.
- ✿ Gandhi said, “The best, quickest and the most efficient way is to build from the bottom. Every village has to become a self-sufficient republic.
- ✿ In the Chola Kingdom the members of the local governing panchayats were elected by a system of “Kudavolai.”
- ✿ Roughly about twenty or more panchayats unite to make a panchayat union or a Block.
- ✿ The panchayat has the right to remove unauthorized constructions.

EXERCISES

I. Complete the statements

1. Panchayat means -----
2. The three tier system of Panchayati Raj are -----, ----- and -----.
3. In the local self government people are empowered to tackle -----
4. Compulsory education is provided for the children according to -----.
5. ----- and -----are important for the growth of any nation.

II. Answer in a sentence or two

1. What is a Panchayat and who is its head ?
2. Where do we have Municipalities?
3. Give the names of four Metropolitan cities in India.

III. Give brief answers

1. Important functions of Panchayat.
2. Sources of income of Village Panchayat.
3. Importance of women in Panchayat.
4. Functions of Village Education Committee.
5. Some ways of protecting public properties.

IV. Choose the correct answer

1. ----- was the first British viceroy to introduce the present system of local self government in India.
(a) Robert Clive (b) Lord Ripon (c) Lord Canning
2. In the Gram Panchayat the elected women members should be ----- of the total elected members.
(a) 1/3 (b) 2/3 (c) 1/4
3. ----- is one of the corporations of Tamil Nadu
(a) Thenkasi (b) Pudur (c) Madurai
4. ----- is a public property.
(a) car (b) government school (c) home

V. Guess who I am

I have trees, plants and colourful flowers. I give fresh air. Children play while elders walk here.

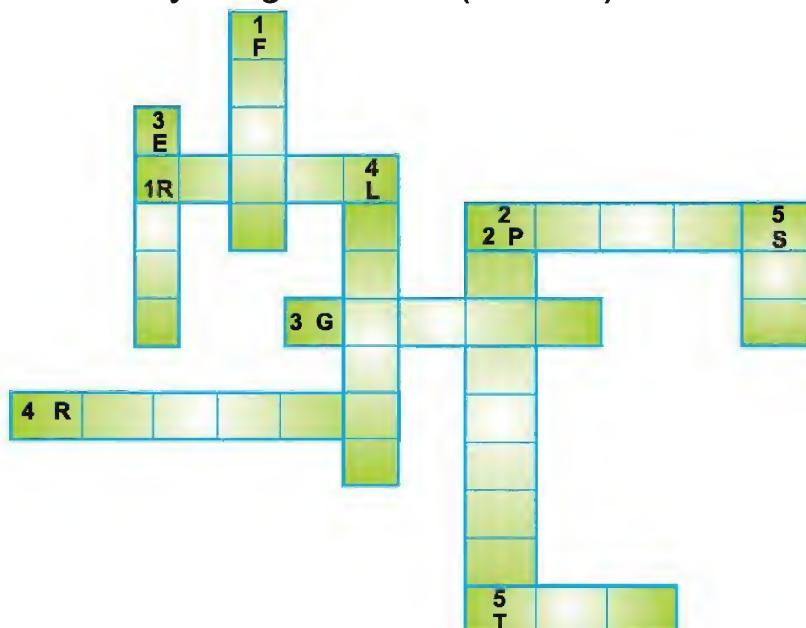
VI. Puzzle

Clues :(down)

1. We have these in villages (5 letters) F-----.
2. Governing body of the village (9 letters)P-----.
3. One of the Corporations of TamilNadu (5 letters) E-----.
4. We go there to read books (7 letters)L-----.
5. Scheme for education for all (3) S-----.

Clues :(across)

1. Opposite of urban (5 letters) R-----.
2. Public property (5 letters) P-----.
3. Government gives this for development(5 letters) G-----.
4. Government does this for bad roads(6 letters) R-----.
5. This is collected by the government(3 letters) T-----.



Project

- ★ Visit a Village Panchayat, meet the members and get to know the various developmental activities of the village.
- ★ Form a Panchayat in your own class and discuss about the existing problems in your village or neighbouring village.

V. How is your room?

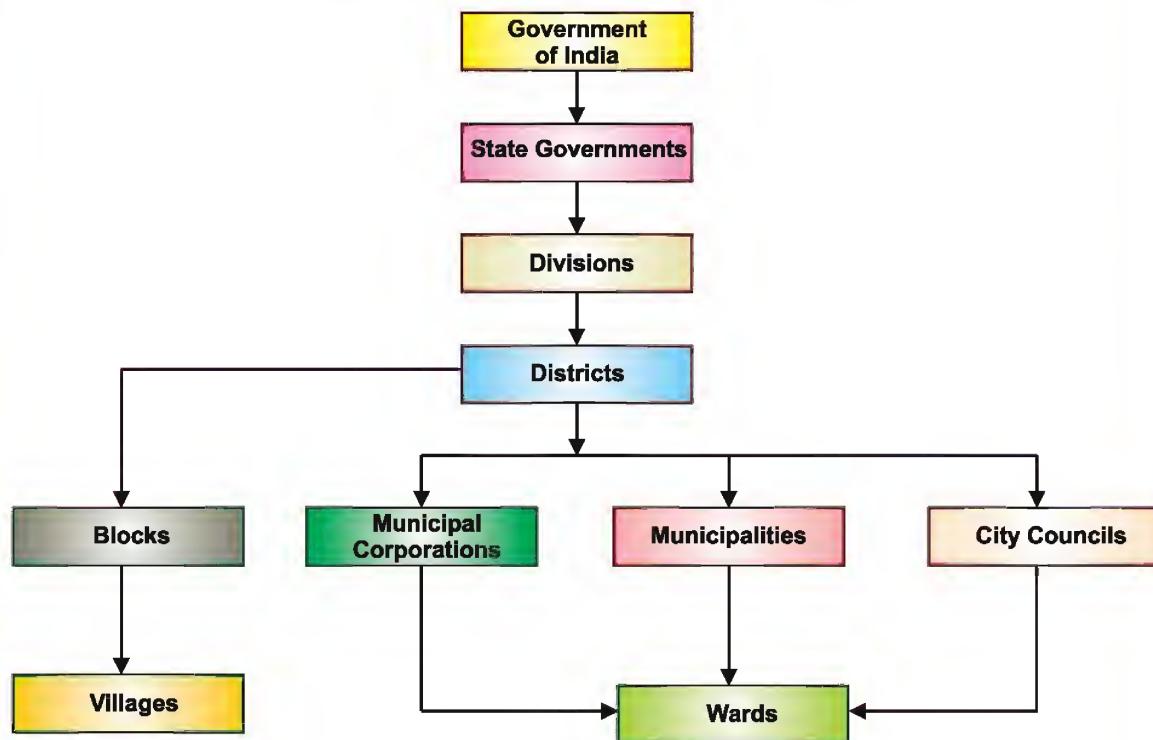


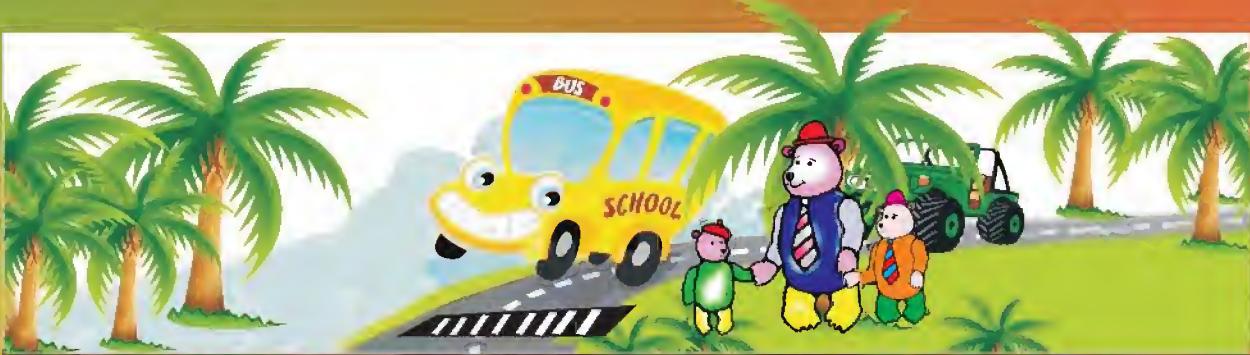
A. untidy



B. tidy

Administrative structure of India





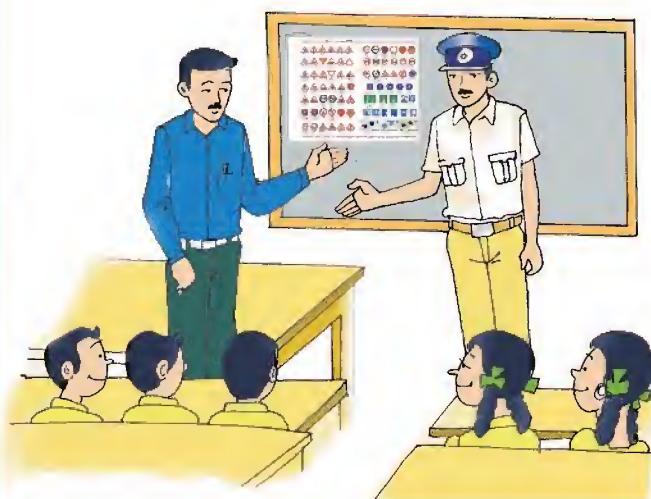
11

ROAD SAFETY

The **Principal** had organized a grand celebration of **Road Safety Week** in school. **Traffic policeman** Balu from the nearby police station was invited as the chief guest of the function. He was asked to create an **awareness** of road safety rules among the students of class V.

The class teacher brought traffic policeman Balu to the class and introduced him. Balu encouraged the class to have a discussion with him about road safety and traffic rules.

“Which is a **safe place** to cross?” asked Lakshmi.



“The **zebra crossing** that is the black and white lines on the road is the safest place to cross the road. Zebra crossings are also known as pedestrian crossings. **Pedestrians** are people walking on or near the road.

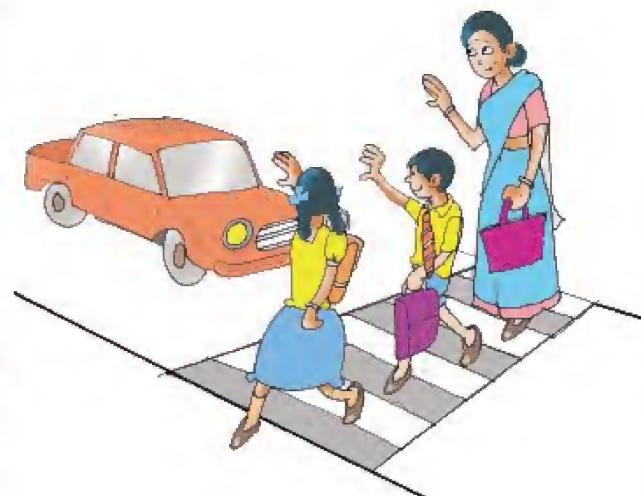
Apart from zebra crossings, **subways** and **footbridges** are provided on big roads. You must use them as they help you to avoid the traffic.

When you are at a pedestrian crossing, wait until the vehicles have stopped and / or the green man shows in the traffic light. But if you are not at a pedestrian crossing, you should wait until you know that it is safe to cross the road. If it is difficult, see if a policeman is nearby. You can seek his help.”

"Supposing there is no zebra crossing what should I do?" asked Ravi.

"Then you should follow some rules. Look before you cross. First look to your **right**, then **left** and then to your **right** again. Do you know the reason for this? Traffic usually moves from your right hand side when you start to cross a road. So, to cross the road safely, you need to check if your right side is clear of traffic first. When it is clear, check that the left side is also clear of traffic. You should then check the right side again before you cross to the middle of the road to make sure that no vehicles have suddenly appeared. As you reach the middle of the road, you should look again to your left.

An important thing to remember – On some roads all the traffic moves the same way. These are called **one – way streets**. That is why you should always look both ways before crossing."



Rashid, who didn't like waiting, asked. "How long should I wait to cross?"

"There is no easy answer to this", said Balu.

"Wait till the road is clear. You must be patient for your own safety."

Some important things to remember while crossing the road:

When crossing, **walk not run**. If you run, you may fall.

Never cross the road at a **corner or curve**.

When crossing between vehicles parked on the side of the road, remember that you are not visible to the moving traffic (because the parked vehicles may be taller than you). So, stop as you appear from behind the vehicle and look for a safe gap before crossing. Drivers need plenty of time to see you, slow down and stop.

"Have you all understood?" asked Balu.

"Yes, Sir", answered the children in a chorus.

After this discussion Balu left the class. Then the teacher wanted to find out whether the children had understood the rules.

The teacher said, "Break up into small groups and discuss how you should cross the road



when there is a zebra crossing

when there is no zebra crossing

when there are vehicles parked on the road

when it is a one-way street

when it is a junction and there is a subway

when there is an over bridge

when there is a turning ahead

Then come forward and tell the class."



The next day, the teacher said, 'I am going to tell you a real life story.

There was a young boy named Shyam in Class V, who travelled by bus to school every day. Both his parents were working, and he came to school with his neighbour Kiran who was in Class XI. Kiran and his friends did not travel safely by bus. What do you think they did?' asked the teacher.

'Started late to school?' asked Karthik.

'Ran to catch a moving bus?' asked Rajesh.

'Stood on the footboard?' asked Meena.

'Stuck their heads out of the bus?' asked Raju.

'You are quite correct!' said the teacher. The older boys were careless and did the wrong things. One day, on their way to school, they wanted to buy something. They jumped off the moving bus at a traffic junction close to the school.



They forgot about Shyam. Shyam started to cry. He did not know what to do. Luckily the driver saw him, and asked him what had happened. Shyam told him. The driver helped Shyam to get off at the right stop for school. In the evening, Shyam decided to board the bus on his

own. He had learnt the rules of bus travel the hard way, and he would never forget them.'

What do you learn from this story?



REMEMBER!

Leave home well in time, so that you won't have to run to catch the bus.

WHILE WAITING FOR THE BUS

At the bus stand, always follow the **queue** if it is there. Board the bus only after it has come to a **halt**, without **rushing in** or pushing others. While waiting for a bus, stand on the **pavement**. Do not obstruct the traffic by standing on the road in front of bus shelters. Do not play at the bus stop.



WHILE BOARDING OR ALIGHTING FROM THE BUS

Do not board or alight at a bus stop other than the one advised by the school. Never board and alight at a red light crossing or unauthorized bus stop. Wait for your turn, allow the people to get off the bus before you get on. Do not push or jostle other passengers. You MUST NOT get on to or hold on to a moving vehicle.

Activity

Fill in the blanks:

While waiting for the bus

Do's

1. Follow the _____.
2. Stand on the _____.

Don'ts

1. Do not _____ at the bus stop.
1. Do not _____ the traffic.

While boarding or alighting from the bus

Do's

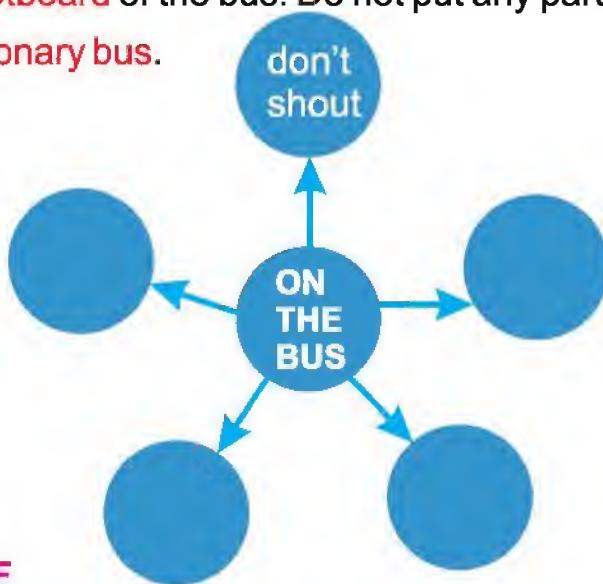
1. Board or alight only at a _____.
2. Wait for your _____.

Don'ts

1. Do not _____ other passengers.
1. Do not get on to a _____.

WHILE ON THE BUS

While on the bus, **shouting** or **making a noise** is definitely bad manners. Such behaviour can also distract the driver. Always hold onto the **handrail** if standing in a moving bus, especially on sharp turns. Do not sit, stand or travel on the **footboard** of the bus. Do not put any part of your body outside a **moving or stationary bus**.



AFTER GETTING OFF

If you have to cross the road after getting off the bus, wait for the bus to go first.

CYCLING TO SCHOOL

Remember these tips.

Do not cycle on the road unless you have been trained.

Before going, discuss the safest route with your parents and follow it.

- ✿ Ride a cycle that suits your height.
- ✿ Make sure that your brakes are working well and that your tyres are inflated.
- ✿ Wear such clothes that do not get caught in the chain or wheels.
- ✿ Wear shoes; while riding they will not slip from the pedals.
- ✿ Make sure the reflectors are clear.
- ✿ Use cycle tracks if you are riding along the main roads.
- ✿ Give a clear arm signal to show what you intend to do.
- ✿ Follow the traffic rules.



Kumar was feeling a little gloomy at the end of the story. 'I want to be safe on the road. But how am I going to remember so much?' he asked.

Many students in Class V felt like that.' It all seemed too much to practise without help.



'But there is help!' said the teacher. Everywhere, there are signs to help you remember what to do. You just have to look.'

"Please teach us a few signs that we need to know,' said Natasha.

'I am happy that you all want to be safe. I will teach you today about traffic signs and road markings."

TRAFFIC SIGNS AND ROAD MARKINGS:

Traffic signs regulate the traffic, and tell pedestrians what to do.

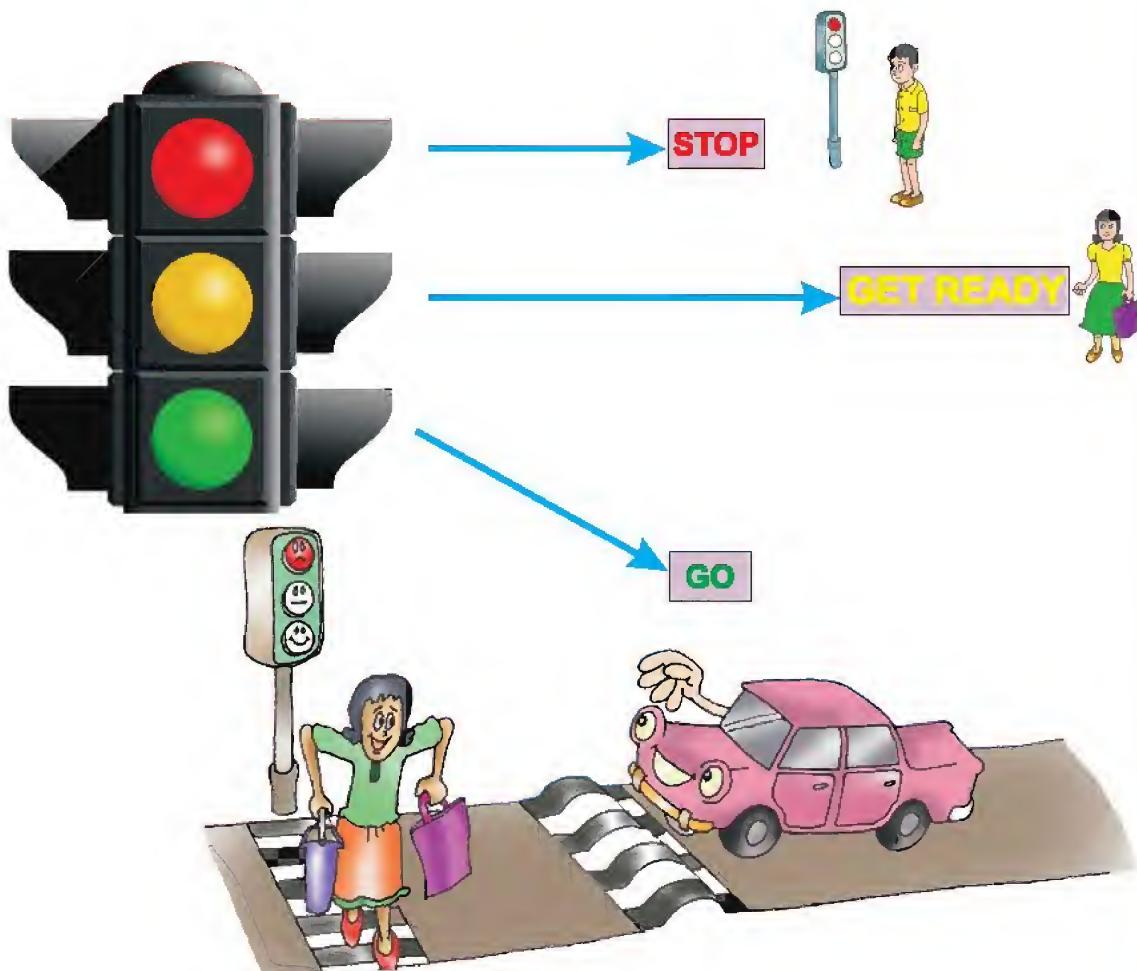
Road markings are painted on the road, and they are also used to guide and regulate the traffic.

The most common is the traffic signal. There is a song to tell you about the signal.

'Stop!' says the Red

'Go!' says the Green

'Get Ready!' says the Amber standing in between.



What colour is the traffic signal, when the green man shines?

There are three kinds of traffic signs:

- ✿ Mandatory or Compulsory signs – these signs just have to be displayed!
- ✿ Cautionary or Warning signs – they prepare us, so that we can be safe.
- ✿ Information signs – they give us important information.

Red circle



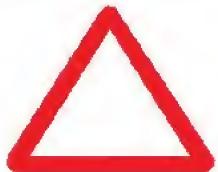
Compulsory DON'T

Blue circle



Compulsory DO

Red triangle



Warning

Blue rectangle



Information

Here are a few 'compulsory' signs – they will tell us what kind of road it is.

**ALL MOTOR VEHICLES
NOT ALLOWED**



NO PARKING



NO HORN



BUS STOP





CYCLE PATH



NO ENTRY

Here are some warning signs – they help us to be safe.



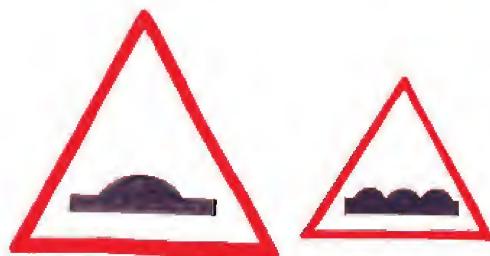
PEDESTRIAN CROSSING



SCHOOL ZONE



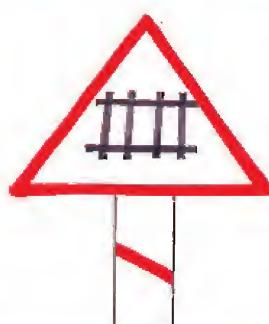
ROAD REPAIR



SPEED BREAKER



UNGUARDED RAIL CROSSING



GUARDED RAIL CROSSING

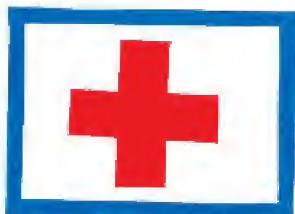
Here are some 'information' signs – they inform us about facilities available.



TELEPHONE



HOSPITAL

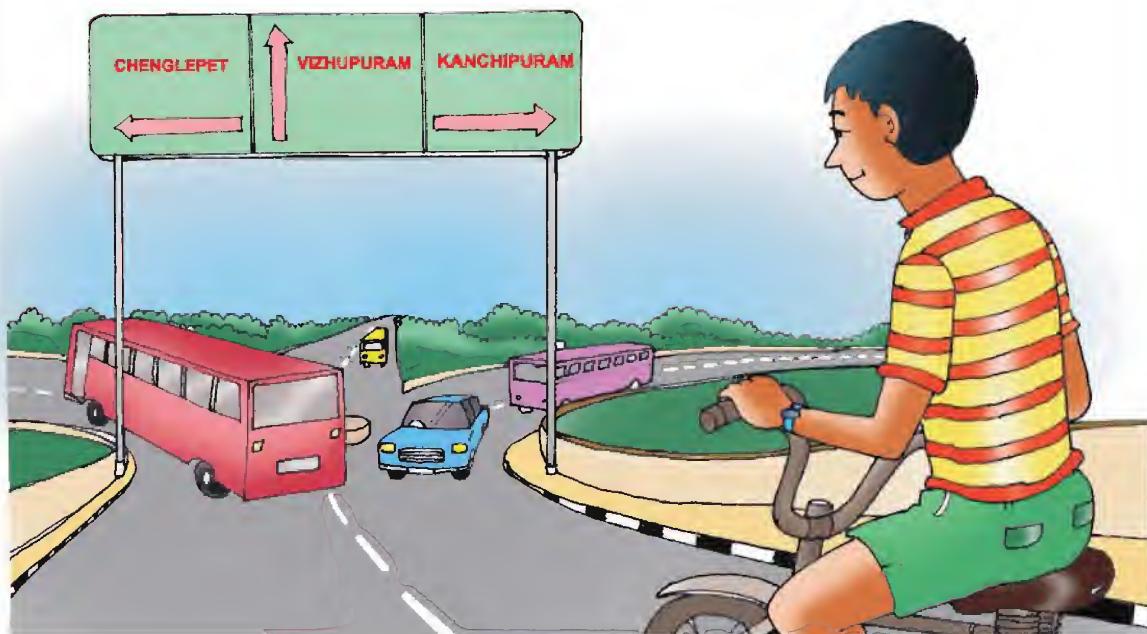


FIRST AID



AUTO STAND

DESTINATION SIGNS



Karthik's father took him to the Traffic Park in the Tamilnadu Science and Technology Centre, Chennai. This park helps you to learn the traffic rules easily – everything your size! You could go there some time.



In case of Road Accident

1. Give Information to the Traffic Control Room

Call 103 - 044-28521323, 044-23452362,
044- 42042300 & 98400 17626 Help line

Dial 108 for Ambulance

2. Give First Aid to the injured

3. Take the injured to the nearest Hospital

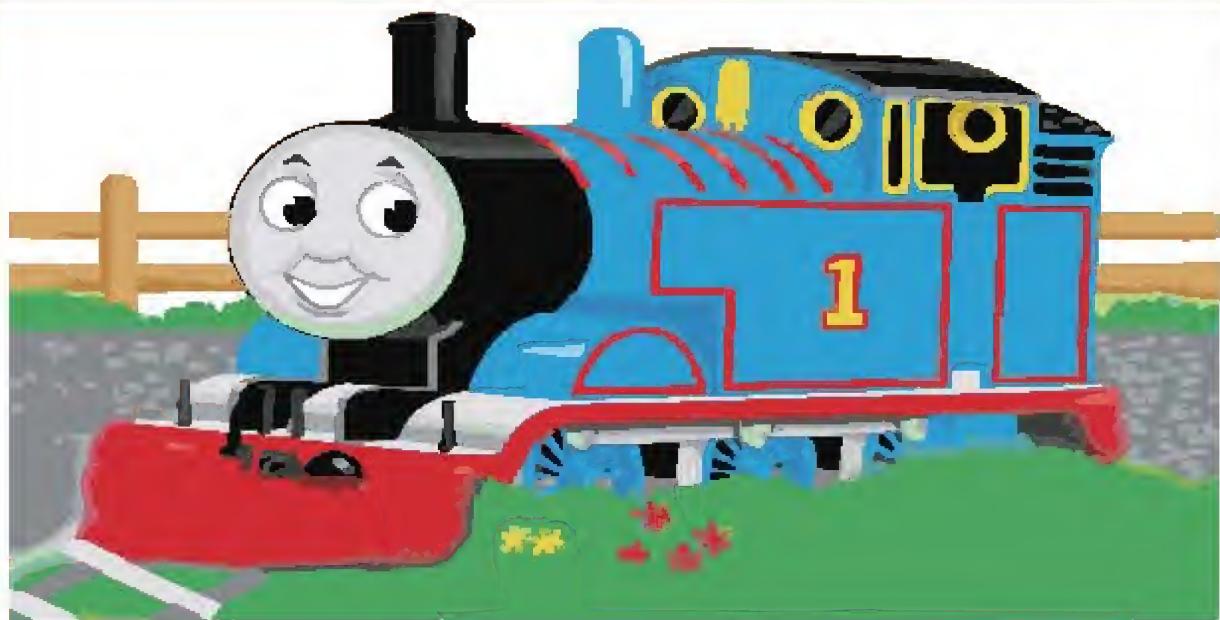
Wearing a helmet protects life

SITUATIONS NEEDING EXTRA CARE

Emergency vehicles: If an ambulance, fire engine, police or other emergency vehicle approaches using flashing blue lights, headlights and/or sirens, keep off the road.

Buses: Get on or off a bus only when it has stopped to allow you to do so. Watch out for cyclists when you are getting off. Never cross the road directly behind or in front of a bus. Wait until it has moved off and you can see clearly in both directions.

Railway level crossings: Do not cross if the red lights show, an alarm is sounding or the barriers are being lowered. The tone of the alarm will change if another train is approaching. If there are no lights, alarms or barriers, stop, look both ways and listen before crossing.



GUIDELINES FOR PARENTS OF SCHOOL CHILDREN

Parents must participate in Parent Teacher Association meetings and discuss the safety aspects of their children. While taking their children to school themselves, they should take proper care of their safety.

Parents should not allow their minor children to drive.



Children are very good observers and therefore, parents must set an example by meticulously observing even small traffic rules.

Guidelines for teachers for ensuring safety of school children

It is the responsibility of **school authorities** and the **teachers** to ensure the safety of school children and also to impart the necessary knowledge, skills and attitude to be a **safe road user**. Teachers should help to develop a responsible attitude towards road use in school children. Teachers should impart essential knowledge about roads and traffic to school children.

Exercise

**Some children were going to school together
Tick the right answers to show who followed traffic rules.**

1.
 - a. Arul ran across the road.
 - b. Anita waited for the green man to flash in the signal light
2.
 - a. Amala jumped into a moving bus
 - b. Anita waited for the bus to stop and then got in.
3.
 - a. Raju looked right and left and crossed the road.
 - b. Prabhu crossed in front of a bus.
4.
 - a. Kiran used the zebra crossing after the traffic stopped
 - b. Kirupa crossed in the middle of the moving traffic.
5.
 - a. Parthiban cycled in the middle of the road.
 - b. Roshan used the cycle path when he used his cycle.
6.
 - a. Senthil was travelling on the footboard of a bus.
 - b. Kamal held onto the hand rail in the moving bus.
7.
 - a. Kala stood in the queue at the bus stand .
 - b. Gopal was standing on the road.
8.
 - a. Lata saw an accident but kept quiet.
 - b. Keerti saw an accident and dialled 108.



12

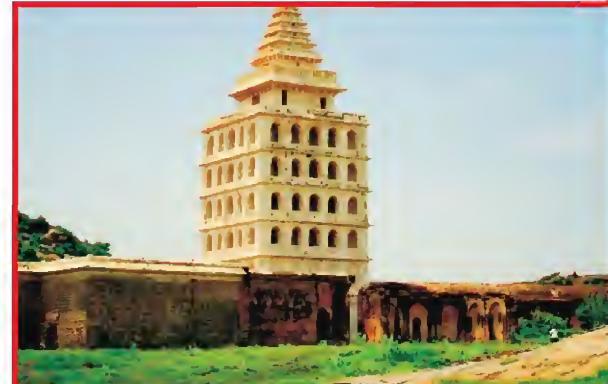
OUR HERITAGE

Introduction

FORTS OF TAMIL NADU

We have heard of names like Red Fort, Gingee Fort, Fort St. George etc. Do you know the meaning of the word 'Fort'?

In the past kings built huge buildings as living places as well as for the purpose of protection. There were some buildings for **trade purposes** as well as **storehouses** of necessary articles. These buildings served also as places of administration. Such buildings came to be known as '**forts**'.



There are different kinds of forts namely rock forts, brick forts and granite forts. Forts had **high walls** which could **prevent the easy entry of enemies**. For further protection moats were built around the fort and crocodiles were bred there. This was a further method of **safety**.

In Tamil Nadu we have some wonderful forts. We shall learn about 4 of them here.

Something to know

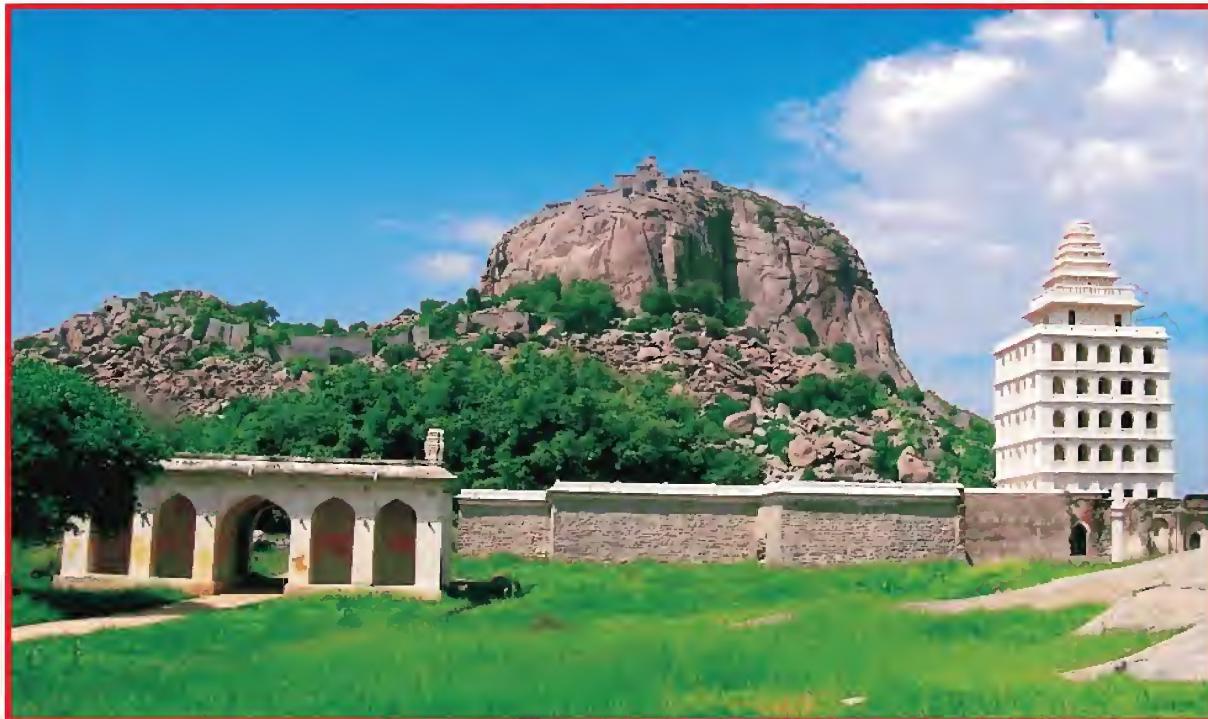
'Fort' is the short form of the word 'Fortress'.

'Fortress means a protected place.

GINGEE FORT

Gingee fort is the most ancient among the forts. You can see it in the Tindivanam-Tiruvannamalai route.

It has existed even before 6 A.D. Its history is very long. It has been ruled by Jains, Pallavas, Cholas, Pandyas, Vijayanagar Kings, Nayaka Rulers, Deccan nawabs, Marathas, Arcot Nawabs, Europeans etc. till India achieved independence. But we will just think of some important and interesting aspects.



After the fall of the Deccan Nawabs at the end of the 17th century, Marathas under Chatrapathi Sivaji wrested Gingee from them. He asked his brother Sambhaji to rule it. The most famous person associated with this fort was Desingh Raja. The Mughal General Zulfigar Khan captured Gingee after a tough fight with the Marathas. It was handed over to Swaroop Singh the head of the army .

After Swaroop Singh's death, his son Desingh Raja came to the throne. He hated to be a slave to the Mughal rulers and refused to pay the tax to the Nawab. So a war took place. At the end of the war Desingh Raja killed himself to avoid being taken as prisoner of the conquerors.

Do you know?

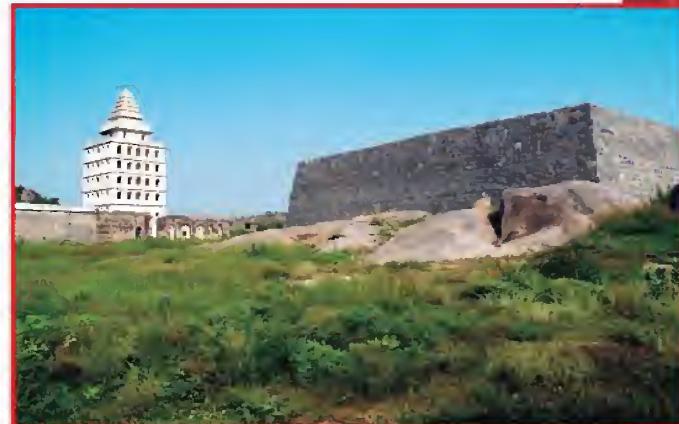
During the reign of Aditya Chola and his brother Rajaraja Chola 1, Gingee fort was called 'Singapuranadu.'

The Nayaka rulers built tall and strong fort walls with granite, tall towers with sculptural workmanship, granite temples on the plains and brick shrines on the peak.

In 1750 A.D. French people who came to India for the purpose of trade and commerce, attacked Gingee, captured it and controlled it for about 10 years. During this period the French annexed Vandavasi and Pondicherry. Then the Britishers attacked the French army and won. They brought Gingee under their control.

Hyder Ali, the General of Mysore, became the king in 1761 A.D. He did not like the British rule and waged war many times. So the Britishers made a peace treaty with him. When Warren Hastings became the Governor General of British India, Hyder Ali blamed the Britishers of going against the treaty and waged war. But he was defeated. The southern parts gradually fell into the hands of the British. In course of time the Britishers used Chennai fort for the transport facilities and the French made Pondicherry as their capital and ruled.

The Gingee Fort gradually declined due to neglect. Today Gingee Fort is placed as a **historic monument**.

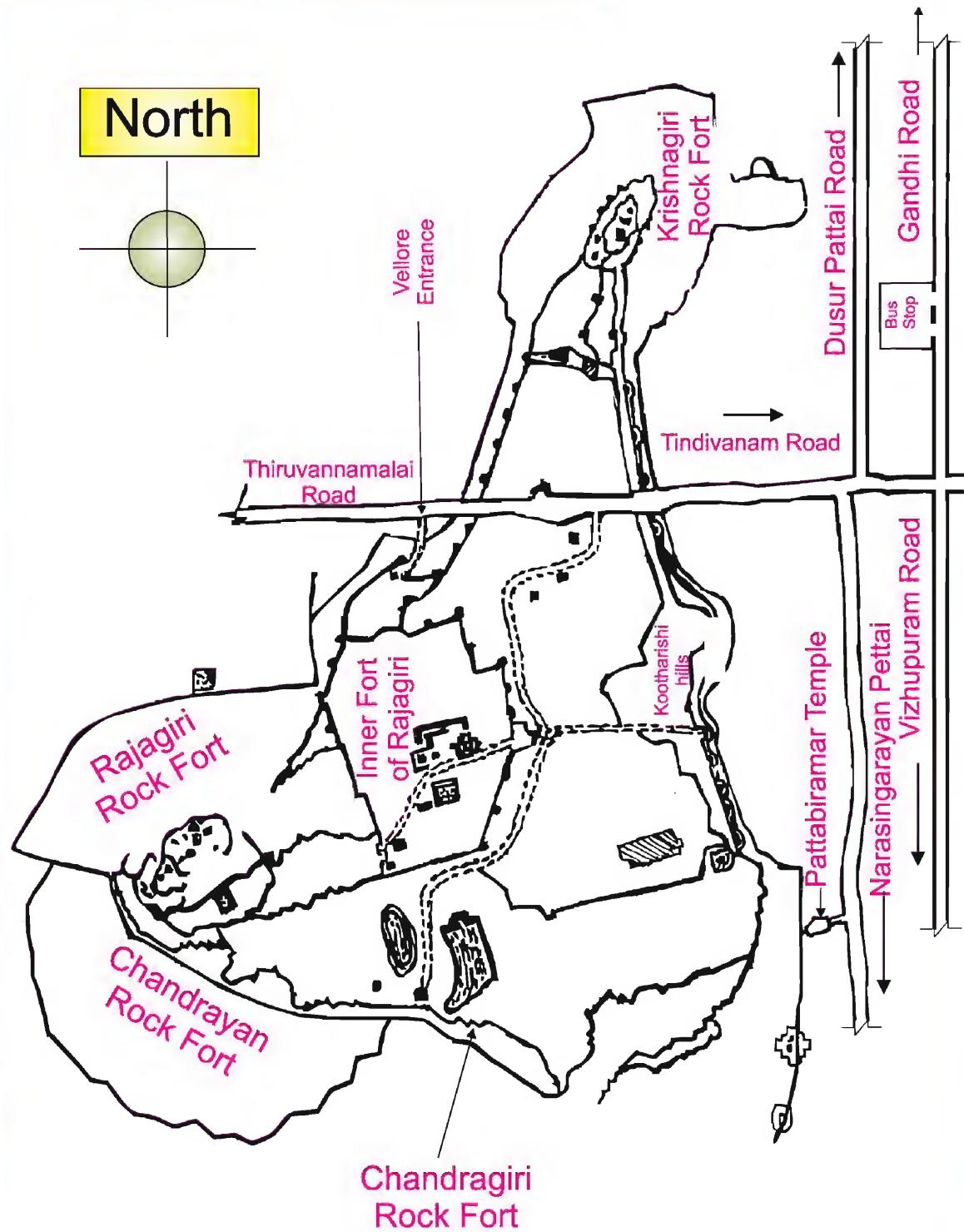


Something interesting

The architecture of Gingee Fort is similar to the architecture of "Hampi".

GINGEE FORT

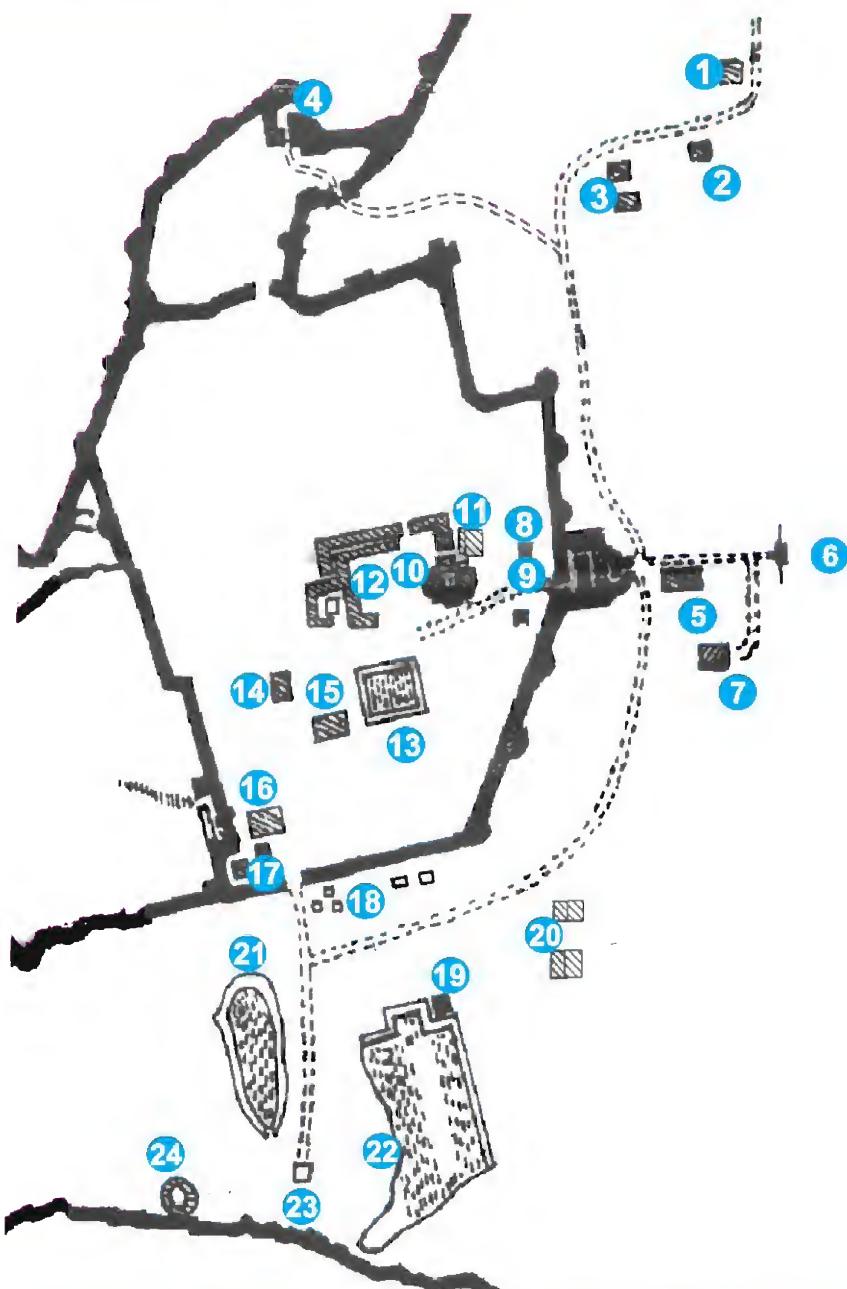
Rajagiri, Krishnagiri, Chandragiri
and Chandrayan Fort



For Teachers' reference only

INTERIOR OF RAJAGIRI FORT

For Teachers' reference only



1. Office of the Archeological Survey of India	10. Kalyana Mahal	19. Desingh Raja's Grave
2. Temple of Lord Shiva	11. Muhamad Khan Mosque	20. Jimma Mosque
3. Amman Shrine	12. Servants' Room	21. Chakkrai Kulam
4. Gateway of Vellore	13. Elephant Tank	22. Chetti Kulam
5. Sadat-ul- Khan Mosque	14. Magazine	23. Anjaneya Temple
6. Gateway of Pondicherry	15. Gymnasium	24. Prisoner's Well
7. Venkataramana Temple	16. Granary	
8. Turret	17. Venugopalaswamy Temple	
9. Stone Workshop	18. Temple of Seven Virgins	

VELLORE FORT



The **Vellore Fort** is a large 16th century fort situated in Vellore city near Chennai. It was built by the Nayak governors of the Vijayanagar empire and was constructed with large granite blocks.

Look at these:

The grand ramparts, wide moat and robust masonry.

See how the fort's ownership passed through many hands.

Nayaks → The Bijapur Sultans → Marathas →
Carnatic Nawabs → The British → Independent India.

Do you know?

Tipu Sultan's family and the last king of Sri Lanka Sri Vikrama Rajasinha were held as royal prisoners in the fort during British rule.

There is something very special about this fort. This fort houses a **Christian Church**, a **Muslim mosque** and a **Hindu temple** which is famous for its magnificent carvings. The Hindu temple is called **Jalagandeeswarar Temple**. The Vellore Fort is a wonderful example of secularism. The Spirit of India is seen here.

The first rebellion against the British rule erupted at this fort in 1806. It was also here that the Vijayanagar royal family of emperor Sriranga Raya was massacred.

Do you know?

A mutiny is a revolt or rebellion.

The Vellore Fort was used by the British to station Infantry Military units of the Madras Regiment.



The British Commander in chief of the Madras Army gave an order that the soldiers would have to wear a new round hat instead of the traditional turbans. In addition they had to remove their beards, caste markings and jewellery.

There were rumours that the hat was made of the hides of cows and pigs. The Sepoys (foot soldiers) were deeply offended both by the order and the rumours.

On July 10, 1806, before sunrise, Indian Sepoys in the Fort attacked the European barracks there and by late morning had killed about 15 officers and 100 English soldiers. Some of the rebelling soldiers made the sons of Tipu Sultan lead the campaign.

The Colonel commanding the Cavalry Cantonment in Arcot heard this news and quickly reached the fort with heavy battalions. The rebelling Sepoys were mercilessly killed and by noon the rebellion was put down. This **Sepoy Mutiny** was the **first rebellion** experienced in the fort by the British.

INTERESTING FACT

The fort is surrounded by a moat. It helped to defend the fort in times of invasions.

FORT ST. GEORGE



Fort St. George in 1639 A.D

Remember

Till recently Fort St. George was the administrative headquarters of the legislative assembly of Tamilnadu.

THE STORY OF FORT ST.GEORGE

St.George was the **first fortress** of the British in India. It was founded at Chennai in **1639**. Today's Chennai (Madras) grew around this Fort.

East India Company's first licensed trading started in the city of **Surat**. Soon the company decided to enter into the spice trade for which it was necessary to have a port nearer to the Malaccan Straits. There was a banana grove owned by a farmer called Madrasan. Official grant for the land was given by **Venkatadri Nayak**, the deputy of the Raja of Chandragiri. This was purchased and the construction of a harbour and a fort began. The day on which the construction work at the fort was completed coincided with **St.George' Day**. So this fort was given the name of Fort St.George.

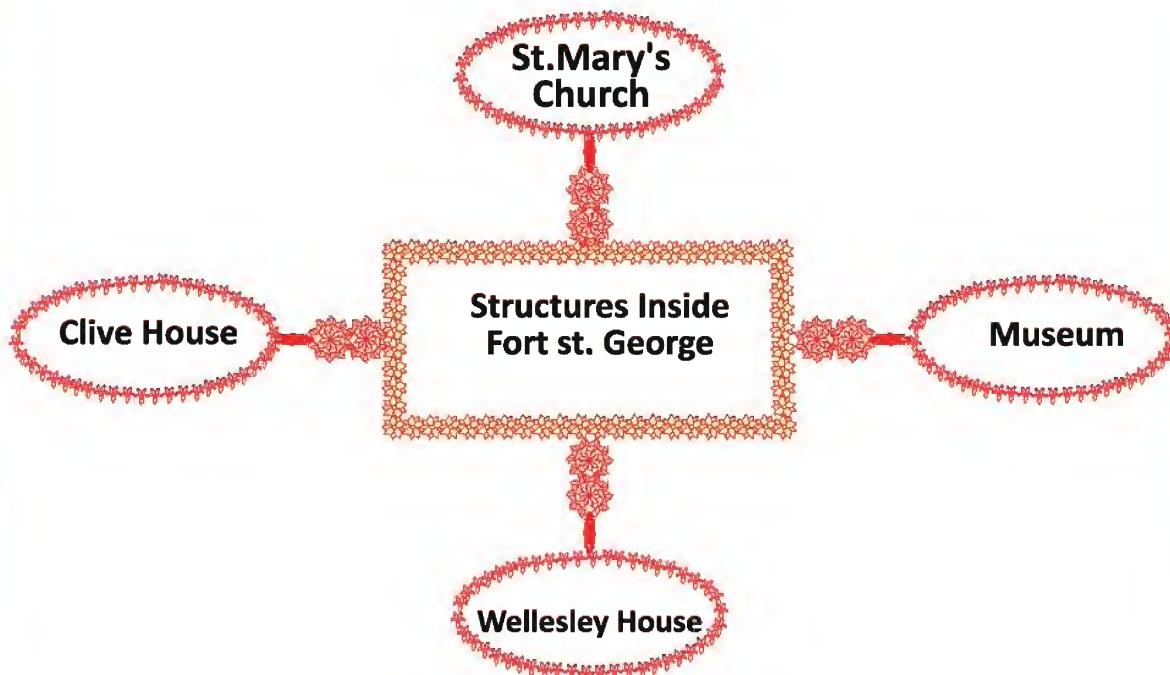
Who was St.George ?

St.George was the patron saint of Britain.

Interesting Fact

The fort is surrounded by walls that are 6 metres high.

Soon this place became the heart of merchant activity and developed into a new settlement area called George Town. This expanded and became Madras or present day Chennai.



ST.MARY'S CHURCH

It is the oldest Anglican Church in India. Robert Clive and Elihu Yale got married here.



THE MUSEUM



The Museum inside has weapons, coins, uniforms and other artefacts from Britain, France and India, all belonging to the British period.



WELLESLEY HOUSE

This has canons belonging to Tipu Sultan.

CLIVE HOUSE

This was once the residence of Robert Clive. It was also known as "Admiralty House".

Where is Fort St. George?

Name one of the two famous persons who got married here.

Name the other person.

To whom did the canons displayed in the fort belong?

Known personalities who stayed in the fort or frequently visited it

Thomas Pitt

Elihu Yale

Robert Clive

Lord Cornwallis

THARANGAMBADI

Do you know what Tharangambadi means ? In Tamil it means “place of the singing waves.”

Have you been to Nagapattinam ? Some famous places there are :

1. [Velankanni Church.](#)
2. [Fort Dansborg](#)

Tharangambadi or Tranquebar is a panchayat town in Nagapattinam district in the state of Tamilnadu. You know what a panchayat,district and state are. You have read about them in previous lessons. Tharangambadi was a [Danish Colony](#) in India from **1620 to 1845**. It is spelt Trankebar or Tranquebar in Danish.

Like the British had East India Company, the Danish people had a [Danish East India Company](#). Tarangambadi was founded by the Danish East India Company in 1620, when the main fort in the Tranquebar city, known as Fort Dansborg was built as the residence of the governor and other officials for about 150 years.

It is now a museum hosting a number of Danish artifacts of that time. The Danish opened a factory also here. It was sold along with the other Danish settlements in India, Serampore and the Nicobars to Great Britain in 1845. Tranquebar used to be a [busy port](#) but it lost its importance when the railway was opened to Nagapattinam.



Something to know

Bishop of Tranquebar is the official title of a bishop in the Tamil Evangelical Lutheran church in South India.

Interesting Facts

- ★ The towering flagstaff in Fort St. George is the tallest in India.
- ★ St. Mary's church located in Fort St. George is believed to be the oldest church in the east.
- ★ Guards were posted at the entrance of the forts and at different places near the fort walls to warn about enemies.
- ★ There was provision in the architecture of the forts for sending messages through pigeons / doves and animals.
- ★ In memory of the Vellore Mutiny the Indian government brought out a stamp.

I. Answer these:

Exercise

1. Name any three groups of people who ruled over Gingee Fort.
2. Imagine yourself to be Desingh Raja. Enact what you would say to the Nawab and what do you think the Nawab would have said ?
3. Gingee Fort had the word indicating a lion in its name. What was that name ?
4. Collect a few pictures of Gingee Fort and make a poster.
5. Show how you would bring out the secular aspect of Vellore Fort through a drawing of yours.
6. Form into groups. Take the roles of the British Commander in chief of the Madras Army, a few Sepoys and enact the Sepoy Mutiny in a symbolic way.
7. Make cards showing four interesting aspects of Fort St. George.
8. Go on a visit to Fort St. George and describe to your friends what you saw there.
9. You have heard that Tranquebar is a port. What do you have in a port ? Complete this : -
Ships _____
10. What was Fort Dansborg mainly built for?

II. Write briefly on each of the following

1. Hyder Ali	4. How Fort St.George came into existence
2. Speciality of Vellore Fort	
3. Sepoy Mutiny	5. Fort Dansborg

III. Complete these mind maps

- 1. Persons who stayed in or visited Fort St.George**
- 2. Structures inside Fort St.George**
- 3. Ownership of Vellore Fort**

Bijapur Sultan 

Project

1. Find out about two other forts and write about them on a poster.
2. Conduct a survey in your neighbourhood and complete this table:

S. No	Name of Fort	Number of People Who visited	Time of Visit	Remarks
1.	Gingee Fort			
2.	Vellore Fort			
3.	Fort St.George			
4.	Tarangambadi			

3. Find out which Fort ranks as the favourite of the visitors.
4. Find out if anyone knows about any other Forts. Write a short report on it after talking to that person.



13 INSTRUMENTAL MELODIES

How many of you sing? Do you learn classical music?

How many of you like instrumental music?

Are you learning to play any musical instrument?

Which is your favourite instrument?

Any 4 of you come and tell us about what you learn.

INTRODUCTION



Today we are going to talk about Musical Instruments. You know that **music** is a part of **human life**. The **sounds** made by man, birds, animals, streams etc., had **rhythm** and **melody** of their own. These led to man making different types of instruments and he found great joy in playing them. Detailed descriptions of many musical instruments are found in **Sangam Literature**. We have ancient instruments some of which still exist and we have modern instruments which continue to be more and more innovative.



Let us now look at some musical Instruments

THE STORY OF PARAI

Ancient man lived in forests. He began to grow crops in fields. When animals came to eat the crops man began to drive them away at times even killed them. Man removed the skins of the animals and threw them away and ate the flesh. The skins dried up. When the wind blew, the **dried skins** produced **some sound**. Man realized that he could use the dried skins to produce different kinds of sound. He made a type of instrument and played it to drive animals away. Gradually this instrument developed into the **parai**.



PARAI

Parai is a **drum**, an instrument to convey something. It was very much a part of the life of **ancient Tamils**. 12 different types of parai are mentioned in '**Puranaanooru**'. The types are dependent on the occasion the parai is used and also its appearance and quality of sound. You have heard of the **5 land forms** of the Tamils. Each of the 5 land forms had their own characteristic **parai** and **yazh**. The singers in olden days carried their parai along with the yazh. Both were used either together or separately while singing.



For your Information

It is believed that young **Andal** used the '**siru parai**'. This was a small and easy to hold drum as the name suggests.

Do you know ?

The '**siru parai**' was used while singing the Praise of God in the early hours of the day before sunrise.

Parai was used for the declaration and the proclamation of Ancient Tamil Kings' messages and orders to the public.

KUZHAL

Kuzhal is an original wind instrument of Kerala. Kuzhal is an important element in 'melams' like **Pancharimelam** and **Pandimelam**. Pancharimelam is the established **temple percussion** music and Pandimelam is a **conventional orchestra** regularly played on special occasions in temples. For the duration of melams, commands for the other players are given by the gestures of **Kuzhal players**. Kuzhal is considerably used in the art form of '**Kuzhal Pattu**'.



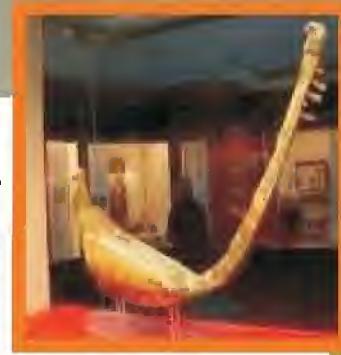
MELAM – CHENDA MELAM

Chenda melam is used in **Kerala**. Chenda is made out of a cylindrical wooden drum and has a length of 2 feet and a diameter of 1 foot. Both ends are covered usually with cow skin. The Chenda is suspended from the drummer's neck so that it hangs vertically. Using the instrument, the drummer strikes the upper parchment. The instrument is famous for its loud sound. It is mainly played in the **Hindu religious festivals** of Kerala. Panchari melam is a **percussion piece** using instruments like **Chenda**, **Ilathalam**, **Kombu** and **Kuzhal**. This is performed during temple festivals in Kerala. **Urumi melam** is a popular instrument as well.



YAZH

The **Yazh** is a direct ancestor of modern day **Veena**. Tamil literary masterpieces written during Sangam period dating back to 200B.C. have mentioned Yazh. How did Yazh get its name? Since the tip of the **Dandi** or the stem of this instrument was carved like the head of the **weird animal 'yall'** It was named **yazhi** or **yazh**. This head piece continues in the **Veena**. The Yazh was played with the fingers of both the hands.



Do you know ?

Only straight notes could be played on this instrument. No gamakas could be played.

Something Interesting

In Sangam Literature different kinds of Yazh are mentioned.

Periyazh	– 21 strings,	Cakotayazh	– 14 strings,
Makarayazh	– 19 strings,	Cenkottiyazh	– 7 strings.

Yazh was considered as a **primary instrument** as well as an **accompaniment** to vocal music. In **Slappedikaram** there is a mention of singing to the accompaniment of the **Yazh**. As the fretted Veena emerged the Yazh went into the background.

In the **Vedas – Rig veda and Atharvana veda** the Yazh is mentioned as '**Vana**' and is called **Shatatantri veena** or the hundred stringed lute.

Activity

Find pictures of these instruments or draw them : - Violin, veena, guitar, flute, mridangam

Find out

There is a **Tirukkural** which mentions Yazh.

Find out and write it



Nadaswaram

The **Nadaswaram** also called **Nagaswaram** is one of the most popular classical instruments of South India. It is a wind instrument similar to the North Indian 'Shehnai' but larger in size. It has a hardwood body and a large flaring bell made of wood or metal.

In India the Nadaswaram is considered to be very **auspicious** and it is the main instrument which is played in almost all **Hindu marriages and temples** in South India. It is a part of the family of instruments known as **Mangala Vadya** (Mangala means auspicious and vadya means instrument). It is usually played in pairs, and accompanied by a pair of drums called '**thavil**'.

CONSTRUCTION OF NADASWARAM

It contains three parts namely 1. **kuzhal** 2. **thimbru** 3. **anasu**. The body of the nadaswaram is made out of a tree called **aacha**.

Do you know?

Due to its intense volume and strength the nadaswaram is basically an outdoor instrument.

EARLY EXPERTS

T.N.Rajaratnam Pillai,

Sangita Kalanidhi Thiruvizhimalai Subramanya Pillai.

MORE RECENT EXPERTS

Namagiripettai Krishnan, Karukurichi Arunachalam, Sheikh Chinna Moulana, Madurai Chinnatayi.

Activity

Recall a marriage that you attended. Was there any Nadaswaram being played there? Tell your friends about how you found that music.

TAVIL

The **Tavil (Thavil)** is a barrel shaped percussion instrument from South India. It is used in **folk music** and **Carnatic Music**, often accompanying the **Nadaswaram**. The Thavil and the **Nadaswaram** are a part of all auspicious festivals and temples in South India. The Thavil consists of a cylindrical shell hollowed out of a solid block of jackfruit wood. One side is covered by **goatskin** and the other side by **buffalo skin**. The right head is played with the right hand, wrist and fingers. The player usually wears thumb caps on all fingers. The left head is played with a short, thick stick made from the wood of the **Portia tree**.



The most well known Thavil exponent is Valayapatti Subramaniam.

VEENA

Veena is a **plucked stringed** instrument used mostly in Carnatic music. It is an instrument which is a modified version of the ancient "Yazh". It is mentioned in the **Atharvana veda**.

As seen in many Hindu temple sculptures and paintings the early **Veenas** were played vertically. The great composer Muthuswamy Dikshitar started playing it horizontally and it became popular. In Hindu mythology **Goddess Saraswathi** is often shown seated upon a swan and playing Veena. Lord Shiva is also holding a veena. Sage Narada and Ravana were also great veena players.

The three types of Veena



Saraswathi veena



Vichitra veena

Rudra veena

Do you know?

A veena player is called a 'vainika.'

The well known exponent of Veena was Veena Dhanammal

Let us remember

Some prominent veena vidwans

1. Veena Balachandar
2. E.Gayathri

Can you add any more ?

MRIDANGAM



played the Mridangam

Thandavam. It is considered to be Deva Vadyam or Divine Instrument.

The Mridangam is a percussion instrument of South India. It is a primary accompaniment in any Carnatic Music concert.

In Hindu mythology Lord Ganesha and Nandi were regarded as great Mridangam players. It is said that Nandi when Lord Shiva danced the

The word Mridangam is derived from the two Sanskrit words **Mrid** (clay) and **ang** (body). The first mridangams were made of clay. Then wood began to be used. Today it is made of the jackfruit tree wood.

FAMOUS MRIDANGAM PLAYERS

Palani Subramaniam Pillai, Palghat Mani, Palghat Raghuram, Palghat Raghuram, Umayalpuram K.Sivaraman.

Activity

Find pictures of some famous Mridangam players and stick them on a poster.

VIOLIN

The **Violin** is a **stringed instrument**. The standard violin has four strings. It is played with a bow. Its unique aspect is that it is used in Carnatic Music, Hindustani Music and Western Music. Some famous violinists are Lalgudi Jayaraman, Kunnakudi Vaidyanathan, M.S. Gopalakrishnan and T.N. Krishnan.



Some different instruments



Jalatharangam



Chitra Veena

Some musicians and their instruments

With whom do you associate these instruments ? Try to match them.

1. Mandolin	-	Shivamani
2. Shehnai	-	Shivkumar Sharma
3. Santoor	-	Lalgudi.G. Jayaraman
4. Violin	-	U.Srinivas
5. Drums	-	Bismillah Khan

Interesting Facts

- The pivotal (basic) concept of Indian music is Raga(Melody), Swara (Note) and Tala (Rhythm).
- There are seven basic notes called Saptaswaras.
- Trumpets were blown to announce arrivals of kings and also during festivals.
- Sivamani is the most famous exponent of the drum in India.
- Lord Shiva is associated with an instrument known in Tamil as 'Udukkai'.
- Viola is a four-stringed instrument similar to a violin but larger in size.
- Tabla is the North-Indian counterpart of the South-Indian Mridangam.

Exercises

1. Write the correct name below the picture in the blanks : - (Tabla, Veena, Violin, Guitar, Drums)



2. Find 5 musical instruments in the word grid given below

QFLUTEXYR _____

TAVILONMMM _____

SPIANOTYK _____

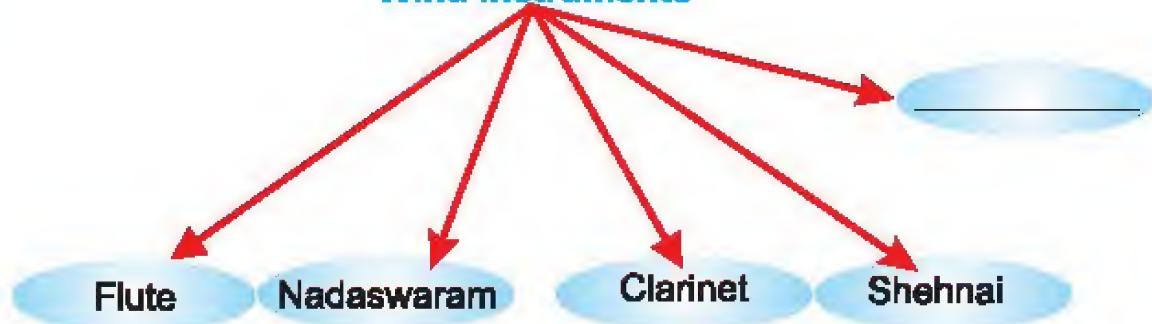
CLARINETV _____

TUVSITARP _____

3. Shall we classify musical instruments?

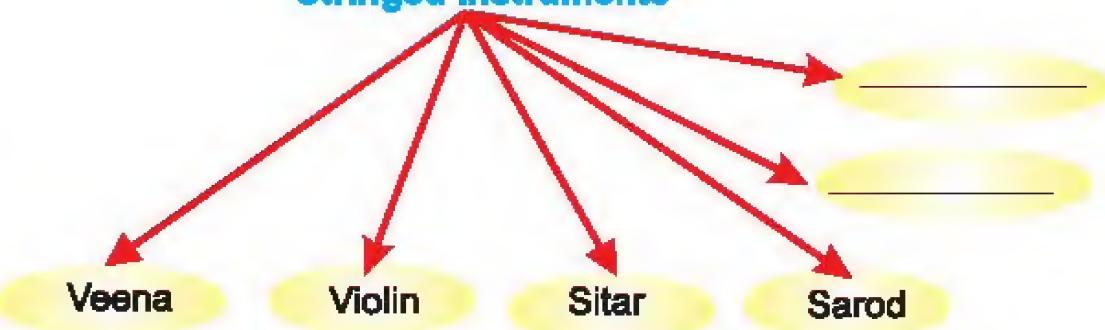
We have wind instruments, stringed instruments and percussion instruments.

Wind Instruments



Can you add any ?

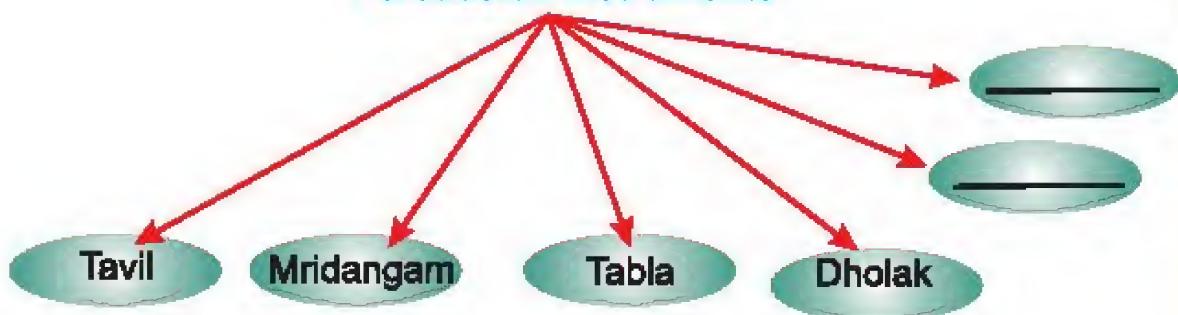
Stringed Instruments



Can you add any ?



Percussion instruments



Can you add any ?

4. Work in pairs. Imagine yourselves to be musical instruments. Tell each other about yourselves.
5. Imagine you are a flute. Tell your story in your own words. (Hints – What is a flute? Which God is associated with a flute? Who are the famous musicians associated with the flute?)
6. Look for a musician in your locality and talk to him. Write down what you found out in the form of a dialogue.
7. Form a group of Instrumentalists and play a song.
8. Name one famous exponent of Nadaswaram, Veena, Mridangam, Tavil and Violin.
9. Mention four North Indian instruments, four South Indian instruments and four Western instruments.
Find out if there are any instruments that are common to all the three types of music.
10. Draw your favourite instrument and colour it.
11. If you were given a chance to learn to play a musical instrument which one would you choose and why? Tell your friend about it.
12. Guess who I am. Here are a few descriptions. Guess which musical instrument it is. The first letter is given.
 - a. I am like a pot and made of clay. I am a percussion instrument. G _____.
 - b. I am like a piano. I can imitate any instrument. K _____.
 - c. I am a North Indian version of Veena. S _____.

PROJECTS

1. Find out 5 modern Instruments and make posters of them.
2. Xylophone

- tall glasses or jars
- water
- mixing spoon

Fill the glasses or jars with different amounts of water. The more water in the glass, the lower the pitch will be. Having less water in the glass or jar will raise the pitch. To play, gently strike the glasses with a mixing spoon.

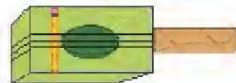
3. Comb Buzzer

- pocket comb
- tissue paper

Fold a piece of tissue paper over the tooth edge of a comb. To play, hum through the tissue paper.

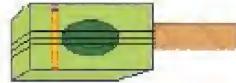


This is an easy way to make a guitar using an old shoe box or tissue box, rubber bands, scissors, a paper-towel tube, and a pencil.

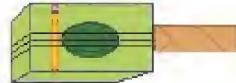


Find an old shoe box, tissue box, or other cardboard box.

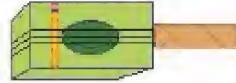
Have an adult cut an oval-shaped hole in the top.



Stretch a few rubber bands around the box and over the hole.



Put a pencil under the rubber bands on one side.



Optional steps. Tape on a paper-towel tube and decorate the box.